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AND EXPERIMENTS, PROCURES KNOWLEDGE FOR MEN"—SMITHSON

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C. G. ABBOT,
Secretary of the Smithsonian Institution.



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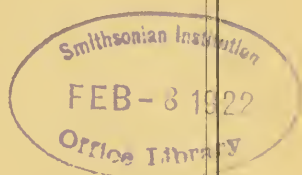
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NOTICE

Previous Opinions Rendered by the International Commission on Zoological Nomenclature have been issued as Special Publications of the Smithsonian Institution, unbound, as follows :

Opinions	1 to 25,	1938, July,	1910 (out of print).
"	26 "	29, 1989, October,	1910 " " "
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Beginning with the present issue, a volume of the Smithsonian Miscellaneous Collections will hereafter be reserved exclusively for the Opinions.

OPINIONS RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

OPINIONS 68 TO 77

OPINION 68

THE TYPE SPECIES OF *PLEURONECTES* LINNÆUS, 1758A

SUMMARY.—Fleming, 1828, p. 196, does not designate the type of *Pleuronectes*.

STATEMENT OF CASE.—Chancellor David Starr Jordan has submitted the following case for opinion:

THE TYPE OF *PLEURONECTES* L.

The Linnæan genus *Pleuronectes*, containing many species, was subdivided by Rafinesque, 1810, *Indice d'Ittiologia Siciliana*, pp. 14-15, and by Cuvier, 1817, *Le Règne Animal*, vol. 2, pp. 218-224. In neither case was the name *Pleuronectes* applied to any one of these subdivisions. Such application to a restricted group was first made by Fleming, 1828, pp. 196-199 (*History of British Animals*). He recognizes four genera of flounders, *Pleuronectes*, *Solea* (Rafinesque), *Platessa* (Cuvier), and *Hippoglossus* (Cuvier). The types of the last three genera are clearly *Pleuronectes solea* L., *Pleuronectes platessa* L., and *Pleuronectes hippoglossus* L. As to *Pleuronectes* Fleming says:

"Gen. XLVI. *PLEURONECTES*. Turbot. Mouth entire; teeth numerous, slender. Lateral line curved. Eyes on the left side."

The five species named represent five modern genera, all allies of the turbot. *Pleuronectes maximus* L. is the type of the genus *Psetta* Swainson.

The first species named by Fleming is "96, *P. maximus*. Common Turbot."

Under the rules of the Zoological Congress, does this act of Fleming restrict the name of *Pleuronectes* to the Turbot group? In this case later usage has made *Pleuronectes maximus* L., the Turbot, the type.

Or does Fleming fail to fix the type? In this case we go on to Bleeker, 1862, pp. 422-429 (*Versl. en Mededeel. Kon. Akad. Wetens. Amsterdam*), who makes *Pleuronectes* synonymous with *Platessa* Cuvier, the type being *Pleuronectes platessa* L. In this Bleeker has been followed by common usage.

DISCUSSION.—It is to be noticed that Doctor Jordan does not ask the Commission to determine the type of *Pleuronectes*, but only whether Fleming in 1828 does, or does not, fix the type of this genus.

The question at issue involves an interpretation of the expression used in Article 30g of the International Rules, reading :

The meaning of the expression, "select the type," is to be rigidly construed. Mention of a species as an illustration or an example of a genus does not constitute a selection of a type

as applied to Fleming's action in 1828, p. 196. For earlier opinion on this general point (Art. 30g), see Opinion 45 (The Type of *Syngnathus* L. 1758), p. 103 (as applied to Rafinesque and Swainson).

The details of the premises presented by Doctor Jordan are as follows:

Linnæus (1758a, pp. 268-271) included the following 16 species in his genus *Pleuronectes*: 1, *achirus*; 2, *trichodactylus*; 3, *lineatus*; 4, *ocellatus*; 5, *lunatus*; 6, *hippoglossus*; 7, *cynoglossus*; 8, *platessa*; 9, *flesus*; 10, *limanda*; 11, *solea*; 12, *linguata*; 13, *rhombus*; 14, *maximus*; 15, *passer*; 16, *papillosus*.

Rafinesque (1810, pp. 14-15, and 52-53, Indice d'Ittiologia Siciliana) mentions under his sixth order, I Pleronetti, three genera, as being represented among the Sicilian fishes, as follows:

VI. ORDINE. I. PLERONETTI. (Pages 14-15)

45. *Solea* (Raf. app. gen. 4.) *buglossa*. Raf. (*Pleuronectes solea* Linn.) Sogliola comune. *Linguata*. a Messina *Palaja*. a Catania *Linguatu*.
46. — *Limanda*. Raf. (*Pleuronectes Linguata* Linn.) Sogliola *limanda*. *Lema*, ò *Lima*, ò *Passari*.
47. — *Platessa*. Raf. (Pl. *platessa* Linn.) Sogliola *pianosa*. *Pianussu*, ò *Passera*.
48. — *Rhomboide*. Raf. app. sp. 6. (Pl. *limanda*. var. Lac.) Sogliola *romboide*. *Rumbu impiriali*.
49. — *Cithara*. Raf. app. sp. 7. Sogliola *citara*. *Cantinu*.
50. — *pegusa*. Raf. (Pl. *pegusa*. Lac.) Sogliola *pegusa*. *Linguata ucchiuta*.
51. — *Arnoglossa*. Raf. app. sp. 8. Sogliola *arnaglossa*. *Linguata liscia*.
52. — *cynoglossa*. Raf. app. sp. 9. Sogliola *linguacane*. *Linguata mavista*.
53. *Scophthalmus* (Raf. app. gen. 5.) *maximus*. (*Pleuronectes maximus* Linn.) Rombo massimo. *Rumolo impiriali*.
54. — *Rhombus*. Raf. (Pl. *rhombus* Linn.) Rombo comune. *Rumbu*, ò *Linguata masculu*. a Messina *Passera*.
55. — *diurus*. Raf. app. sp. 10. Rombo doppiacoda. *Rumbu dupiacuda*.
56. *Bothus rumolo*. Raf. car. gen. 23, sp. 54. Boto rumolo. *Rumolo*. a Catania *Luncru*.
57. — *Tappa*. Raf. car. sp. 55. Boto tappa. *Tappa*. a Catania *Panta*.
58. — *Imperialis*. Raf. car. sp. 56. Boto imperiale. *Tappa impiriali*, ò *Linguata impiriali*.

Thus, the genus *Solea* 1810 (see also Quensel, 1806, p. 230, genus *Solea*, with *S. vulgaris*, syn. *Pleuronectes solea* Linn.) contains the species *Pleuronectes solea*, which in 1806 and 1810 became the type of *Solea* by absolute tautonymy (Article 30d), and the Linnæan species *Pleuronectes rhombus* and *Pleuronectes maximus* were placed (1810) in *Scophthalmus*.

Cuvier (1817, pp. 218-224, Règne Animal) distributes the Linnæan species of *Pleuronectes* L. as follows ("Nous les divisions comme il suit"):

Pleuronectes [no species mentioned as type, and no subgenus mentioned as *Pleuronectes*].

subg. *Platessa* Cuvier, 1817, contains—

La Plie franche ou Carrelet (*Pleur. platessa* L.) [type by absolute tautonymy].

Le Flet ou Picaud (*Pleur. fesus* L.).

La Limande (*Pleur. limanda* L.).

subg. *Hippoglossus* Cuvier, 1817, contains—

Le Flétan (*Pleuronectes hippoglossus*) [type by absolute tautonymy], and several species in footnote.

subg. *Rhombus* Cuvier, 1817 [not *Rhombus* Lacépède, 1800, of which the type is *alepidotus* teste Jordan & Evermann, not *Rhombus* Da Costa, 1776, mollusk, not *Rhombus* Humph., 1797, mollusk, not *Rhombus* Montf., 1810, mollusk], contains—

Le Turbot (*Pleuronectes maximus*) ("Le pl. passer d'Artédi et de Linn. n'est point différent du turbot").

La Barbue (*Pleuronectes rhombus*) [type by absolute tautonymy]; he mentions also *Pleuronectes nudus* Risso, *Diaphanus* Sh., *Arnoglossum* Rondelet, and further, in footnote, several other species.

subg. *Solea* Cuvier, 1817, containing—

Pleuronectes solea L. [type by absolute tautonymy].

Pleuronectes cynoglossus L.

subg. *Monochires* Cuvier, 1817 [not clear whether French or Latin], containing—

Le Linguatula Rondelet (*Pleuronectes microchirus*).

subg. *Achirus* Lacépède, 1802, containing—

Pleuronectes achirus L., and in footnote several other species including *Pleuronectes lineatus* [author not given].

subg. *Plagusia* Brown, 1756, not *Plagusia* Latreille, 1806, crustacean.

Fleming, 1828,¹ "in the enumeration of British animals contained in this volume" (p. xviii), "as a compiler" (p. xxi), gives descrip-

¹ "History of British Animals, exhibiting the descriptive characters and systematical arrangement of the genera and species of quadrupeds, birds, reptiles, fishes, mollusca, and radiata of the United Kingdom; including the indigenous, extirpated, and extinct kinds, together with periodical and occasional visitors."

tions, synonymy, and occurrence in British waters for the following fishes that come under consideration in connection with this case:

- g. 46. *Pleuronectes*. Turbot. [5 species reported.]
 - 96. *P. maximus*. Common Turbot.
 - 97. *P. rhombus*. Brill.
- g. 47. *Solea*. Sole. [2 species reported.]
 - 101. *S. vulgaris*. Common sole. Syn. *Pleuronectes solea* Linn.
- g. 48. *Platessa*. Fluke. [5 species reported.]
 - 103. *P. vulgaris*. Plaise. Syn. *Pleuronectes platessa* Linn.
 - 104. *P. flesus*. Flounder. Syn. *Pleuronectes flesus* Linn.
 - 105. *P. limanda*. Dab. Syn. *Pleuronectes limanda* Linn.
- g. 49. *Hippoglossus*. Holibut. [1 species reported.]
 - 108. *H. vulgaris*. Common holibut. Syn. *Pleuronectes hippoglossus* Linn.

The author does not state in connection with any one of these four genera what species he accepts as type species. None of the five species mentioned under *Pleuronectes* appears, from the premises presented, to be the type of *Pleuronectes* by absolute tautonymy, but species No. 97, *Pleuronectes rhombus*, is type of *Rhombus* 1817 (not *Rhombus* Lacép, 1800), by absolute tautonymy, and both *Pleuronectes maximus* and *Pleuronectes rhombus* had been placed in the genus *Scophthalmus* by Rafinesque, 1810. The fact that Fleming gives the vernacular name "Turbot" to the genus *Pleuronectes*, and "Common Turbot" to the species *Pleuronectes maximus*, cannot, "rigidly construed," be taken as designation of type.

In the introduction to this work, Fleming (1828, p. xxi) states that his History (1828) "is destined to serve as an adjunct" to his Philosophy of Zoology (1822), and this statement leads the Secretary to consult said "Philosophy," in order to better understand the premises.

Fleming (1822, v. 2, Philosophy of Zoology), in the general discussion on nomenclature and species, says:

- p. 153, Where synonymes have unavoidably been created in consequence of the want of communication between distant observers, the rule universally known, but not equally extensively observed, is to give the preference to the name first imposed.
- p. 157, Where useless changes are thus produced in nomenclature, their authors, and their names should be overlooked.

In a number of places Fleming clearly determines the type species of a genus, for instance:

- p. 173, 2. MIMETES (of Dr. Leach), *Chimpanze*. . . . The *Simia troglodytes* of authors, is the type of the genus.
- 3. SIMIA. Orang-Outang. . . . The *Simia Satyrus* is the type.
- p. 174, 13. LEMUR. . . . The Lemur Macaco is the type of this genus.

In many cases Fleming simply mentions a single species under the genus without stating that it is the type. For instance:

p. 178, 27. RHINOLOPHUS. . . . *Rh. ferrum equinum*.

28. NYCTERIS. . . . *N. hispidus*.

The foregoing citations clearly show that Fleming had a distinct conception of the type species as we understand it to-day.

The practical point arises whether Fleming intended that the citation of a single species should be accepted as a designation by him of the type species. If Fleming avers in any portion of his book that this interpretation is to be made, the Secretary has thus far been unable to find the statement. The general tendency of the entire work toward the naming of a type species is, however, striking for a book published in 1822, and the temptation is very great indeed to make the interpretation that Fleming actually intended to designate a type species for nearly every genus he mentioned.

In his *Philosophy*, Fleming (1822, vol. 2) refers to *Pleuronectes* as follows:

p. 388, 64. PLEURONECTES. With pectoral fins. This genus includes 1. *Pleuronectes* (*P. platessa*). 2. *Hippoglossus* (*R. [P.] hippoglossus*).

3. *Rhombus* (*P. maximus*). 4. *Solea* (*P. solea*).

65. ACHIRUS. Destitute of pectoral fins. *Pleuronectes achirus*.

The point is to be noticed that in 1822 Fleming used *Pleuronectes* for *Pleuronectes platessa*, and *Rhombus* for *Pleuronectes maximus*, while in 1828 he changed his view and used *Pleuronectes* for *Pleuronectes maximus* and *Pleuronectes rhombus*, but he placed *Pleuronectes platessa* in the genus *Platessa*.

Accordingly the premise presented by Doctor Jordan that Fleming (1828, 196-199) was the first to restrict the name *Pleuronectes* to a subdivision of the original genus is found to be erroneous. Such restriction appears to have been made at least as early as 1822 by Fleming, and his 1822 action was reversed in 1828.

It will be noticed that Fleming in 1822 adopted the four subgeneric groups used by Cuvier, 1817, and that he corrected the nomenclatural error of Cuvier, in that Fleming recognized *Pleuronectes* for one of the subgenera, namely, for that group which Cuvier named *Platessa*, and the type of which by absolute tautonymy is *Pleuronectes platessa*. The question is: Did Fleming here select *platessa* as type of *Pleuronectes* s. str.?

At least four views are possible:

(1) *Type by inclusion*.—By the principle of "type by inclusion" *platessa* would become, *ipso facto*, the type of *Pleuronectes* s. str., because *Pleuronectes* s. str., here clearly includes *Platessa* 1817, for

which *platessa* is type by tautonymy. But the proposal to insert into Art. 30 the principle of "type by inclusion" was rejected by the Commission at its Boston meeting.

(2) *Typical subgenus*.—The view might be advanced that Fleming here proposed, apparently for the first time, the typical subgenus *Pleuronectes*, and that by citing only the name *Pleuronectes platessa*, he designated the type by monotypy. Art. 30c.

(3) *Type by renaming*.—The view might be advanced that Fleming deliberately renamed *Platessa* 1817, for which the type had already been determined by absolute tautonymy, hence that *platessa* became automatically type of *Pleuronectes* s. str. Art. 30f.

(4) *Type by monotypy*.—The view might be advanced that Fleming, by quoting only *platessa* under *Pleuronectes*, definitely intended to take this as type.

In respect to this last view (4) different authors might differ in opinion, for the point might be advanced that Fleming did not dispose of all the original species of *Pleuronectes* 1758, and that he simply mentioned *platessa* as an example of *Pleuronectes* s. str., hence, that "rigidly construed" this is not a type selection.

Nevertheless, from the premises here presented it seems clear that Fleming, 1822, actually did propose the typical subgenus of *Pleuronectes*, that he correctly named this subgenus as *Pleuronectes*, and that he mentioned only one species (*platessa*) as representative of this typical subgenus. Accordingly, unless there are important reasons to the contrary, it would seem best to take *platessa* as type of *Pleuronectes*.

While the evidence seems to point to the conclusion that *platessa* should be taken as type species of *Pleuronectes* on basis of Fleming (1822, p. 388), it seems wise, in view of the possibility of a difference of opinion (4), to follow the case further in order to see how the views given under (2) and (3) would coincide with the later history of the generic name.

Without entering upon a detailed discussion of this very confused case of nomenclature, which involves many references in addition to those cited by Doctor Jordan, attention is invited to the facts that—

(a) Fleming's action in 1822 in substituting *Pleuronectes* for Cuvier's genus *Platessa*, 1817, is followed by Bleeker (1862), Günther (1862), Leunis (1883), and Claus (1895), while Jordan² and Evermann (1898), and Apstein (1915) definitely mention *Pleuronectes platessa* as the type of *Pleuronectes*, and

² Jordan (1917a, 13, The genera of fishes) accepts *platessa* as type of *Pleuronectes*.

(b) On the other hand Fleming's action of 1828 in placing *Pleuronectes rhombus* and *Pleuronectes maximus* in the genus *Pleuronectes* is followed later by Fleming (1842), while Jordan & Goss (1889) definitely designate *Pleuronectes maximus* as type of *Pleuronectes*.

In answering Doctor Jordan's question, the Commission is of the opinion that Fleming's action of 1828 (pp. 196-199) is not to be construed as fixing the type of *Pleuronectes*.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Dautzenberg, Kolbe, Roule, Simon.

The foregoing Opinion was submitted to all Commissioners for vote and to more than 350 zoologists, zoological laboratories, colleges, and scientific institutions for comment. No adverse criticism has been received by the Secretary, but the following comments have been sent to him:

Commissioner Allen: It seems to me that Fleming in 1822, by including only *Pleuronectes platessa* L. in his subgenus *Pleuronectes*, distinctly indicates, in view of his clear recognition of the need of type designations, that he regarded *P. platessa* L. as the type and that his action in 1828 has not necessarily any bearing on the case.

Commissioner Bather: I agree with the conclusion arrived at, but I am perhaps more influenced in coming to the conclusion by the fact that Fleming's book of 1828 was professedly a history of British animals only, and that in the absence of any evidence to the contrary it should be so accepted. Therefore, quite apart from the existence of the 1822 work, I should not regard Fleming as fixing types in 1828.

Commissioner Hartert: It is clear that Fleming did not formally fix the types in this case, which is perfectly parallel to that of the genera of the swallows of Forster, 1817. I accepted Forster's genera, but the A. O. U. and as competent nomenclaturists of England and Germany disagreed with my action, holding that Forster did not formally designate the type of *Hirundo*.

Commissioner Hoyle: Fleming, 1828, did not fix the type of *Pleuronectes*, but I am inclined to think (from the data given) that he made *platessa* the type in 1822.

Commissioner D. S. Jordan: I think both cases [*Pleuronectes* and *Sparus*] practically above question—fortunately coinciding with usage.

Commissioner Stejneger: I hold that Fleming, in 1822, actually designated the types [for *Pleuronectes* and *Sparus*] as understood in the International Code of Nomenclature.

Doctor Pappenheim (Berlin) studied the case, upon the request of Commissioner Kolbe, and presented to him the following memorandum:

Ich schlage vor die Fischgattungsnamen "*Pleuronectes* L." und "*Sparus* L." unbedingt zu verwerfen und durch *Platessa* Cuv. und *Chrysophrys* Cuv. zu ersetzen. Als Type für die Gattung *Platessa* hat nach meiner Auffassung die Art *Pl. platessa* (L.), für *Chrysophrys* die Art *aurata* (L.) zu gelten.

Die gegenteiligen Ansichten könnten sich m. M. nur auf Fleming stützen, dessen Arbeiten ein systematischer Wert nicht zukommt. Anderseits genügt zur Begründung der Währung der von Cuvier aufgestellten Namen das in den Anlagen (Letter No. 27 und No. 28) gegebene Material.

Eine Notwendigkeit, bei Verwerfung der Namen "*Pleuronectes*" und "*Sparus*" und auch die Familien Namen "*Pleuronectidæ*" und "*Sparidæ*" aus nomenclatorischer Gründen zu verwerfen, liegt m. M. n. nicht vor, wie ich überhaupt der Meinung bin, dass die angeblich allgemein giltigen, weit international festgelegten Nomenclaturregeln in begründeten Fällen, wie den beiden vorliegenden aus systematisch-morphologischen Gründen vernachlässigt werden können.

Ich werde jedenfalls in Zukunft ohne Rücksicht auf etwaige gegenseitige Entscheidungen der Kommission die Namen "*Pleuronectes*" und "*Sparus*" nicht mehr anwenden.

William C. Kendall, Lewis Radcliffe, and Hugh M. Smith (U. S. Fish Commission) unite in the conclusion that Fleming (1822) should be regarded as having designated *platessa* as the type of *Pleuronectes* and the fact that the disposal of the matter otherwise in 1828 should not affect the question; that if, however, Fleming or other authors cannot be accepted, the question lies between Swainson (1839, v. 2, p. 302) and Bleeker (1862, 428), and that Bleeker does not designate the type in the sense that the exact rule of the Zoological Congress seems to require any more specifically than was evidently intended by Swainson.

Miss Mary J. Rathbun: My opinion is that *platessa* should be regarded as the type of *Pleuronectes* by action of Fleming in 1822, and that Fleming 1828, 196, does not designate the type of *Pleuronectes*.

Favorable replies have been received also from: P. P. Calvert, C. Tate Regan, A. A. Tyler, and H. L. Viereck.

Oldfield Thomas: The tendency of the proposed answers appears to be that Fleming's 1822 quotations of species should be accepted as genuine selections, a view with which I agree.

OPINION 69

THE TYPE SPECIES OF *SPARUS* LINNÆUS, 1758

SUMMARY.—Fleming, 1828, 211, does not designate the type of *Sparus*.

STATEMENT OF CASE.—Chancellor David Starr Jordan has submitted the following case for opinion:

THE TYPE OF *SPARUS* L.

The genus *Sparus* L. was subdivided by Cuvier (1817, vol. 2, pp. 271-274, Règne Animal), who failed to retain the name for any of its parts.

Fleming (1828, pp. 211-212, History of British Animals) recognized three genera among the Linnæan species—*Sparus*, *Pagrus* Cuvier (*Sparus pagrus* L.) and *Dentex* Cuvier (*Sparus dentex* L.). Under *Sparus* he says:

“Gen. LXVII. *SPARUS*, GILTHEAD. Four or six teeth in each jaw, in one row; the rest of the jaw paved with large round teeth, with blunt summits.”

One species is mentioned, *Sparus aurata* L., which is the common “Gilt-head,” the type of *Chrysophrys* Cuvier, 1817, and of *Aurata* Risso, 1826.

Does this constitute a restriction of *Sparus* to *S. aurata*? Common usage so regards it. Later authors have proposed to use the name for other Linnæan species of *Sparus*.

The other species, formerly referred to *Sparus*, are never called “Gilthead.”

DISCUSSION.—The case of *Sparus* involves the same principles as the case of *Pleuronectes* (see Opinion 68).

The details of the premises presented by Doctor Jordan are as follows:

Linnæus (1758a, pp. 277-282, Systema Naturæ) included in the genus *Sparus* 22 species, as follows: 1, *aurata*; 2, *annularis*; 3, *sargus*; 4, *melanurus*; 5, *smaris*; 6, *mæna*; 7, *saxatilis*; 8, *orphus*; 9, *hurta*; 10, *erythrinus*; 11, *pagrus*; 12, *boops*; 13, *cantharus*; 14, *chromis*; 15, *salpa*; 16, *synagris*; 17, *dentex*; 18, *spinus*; 19, *virginicus*; 20, *mormyrus*; 21, *capistratus*; 22, *galilæus*.

Cuvier (1817, vol. 2, pp. 268-272, Règne Animal) distributed original Linnæan species among the following systematic units:

PERCOIDES

g. *Smaris* Cuvier, 1817 [not *Smaris* Latreille, 1796, arach.], including—
Sparus mæna L.

Sparus smarís L. [type by absolute tautonymy], together with certain other species mentioned in footnote.

g. *Boops* Cuvier, 1817, including—

Sparus salpa L.

Sparus melanurus L.

Sparus boops L. [type by absolute tautonymy].

g. *Sparus* Cuvier, 1817. [Cf. *Sparus* Linn., 1758.] ("Que je réduits aux espèces de l'ancien genre de ce nom, dont les mâchoires peu extensibles sont garnies, sur les côtes, de molaires rondes, semblables à des pavés. Ils vivent généralement de *fucus*. Je les subdivise comme il suit") :

[subg.] *Sargus* Cuvier, 1817 [not *Sargus* Fabr., 1798, dipteron], containing—

La Sargue ordinaire (*Sp[arus] sargus* L.) [type by absolute tautonymy].

[subg.] Les Daurades [Latin name not given], containing—

La Daurade ordinaire (*Sp[arus] aurata* L.), together with several other species mentioned in footnote.

[subg.] *Pagrus* Cuvier, 1817, containing—

Le Pagre ordinaire (*Sp[arus] argenteus* Schn.) [= *pagrus* Linn., teste Jordan and Evermann].

Le Pagel (*Sp[arus] erythrinus* L.), and 3 species in footnote.

g. *Dentex* Cuvier, 1817, containing—

Le Denté ordinaire (*Sp[arus] dentex* L.) [type by absolute tautonymy], and several species mentioned in footnote.

g. *Cantharus* Cuvier, 1817 [not *Cantharus* Bolt, 1798, mollusk, not *Cantharus* Montf., 1808, mollusk], containing—

Le Canthère ordinaire (*Sp[arus] cantharus* L.) [type by absolute tautonymy], and several species in footnote.

Fleming (1828, pp. 211-212, History of British Animals) reports and describes the following original Linnæan species of the genus *Sparus* for Great Britain:

g. 47. *Sparus* Gilthead. [1 species reported.]

136, *S. aurata*.

g. 48. *Pagrus* Braize. [2 species reported.]

137, *P. vulgaris*. Common Braize. Syn. *Sparus pagrus* Linn.

g. 49. *Dentex*. [1 species reported.]

139, *D. vulgaris*. Syn. *Sparus dentex* Linn.

The author does not state in connection with any one of these three genera what species he accepts as type species; but *Sparus pagrus* had become the type of *Pagrus* in 1817, by absolute tautonymy (*argenteus*=*pagrus*, see Jordan and Evermann, 1898). *Sparus dentex* had become the type of *Dentex* in 1817, by absolute tautonymy. *Sparus aurata* does not appear, from the premises presented, to be the type of *Sparus* by absolute tautonymy, but Cuvier, 1817, had placed *Sparus aurata* in the genus *Sparus*, subgenus Les Daurades (no Latin name used), to which subgenus Cuvier later (1829) gives the name *Chrysophris* (= *Chrysophris*, 1830), of which it was the first species mentioned. Prior to this date (1829), however, Fleming (1822, Philosophy of Zoology) had adopted three of Cuvier's subgenera of *Sparus*.

and had retained for Les Daurades the subgeneric name *Sparus*, as shown in the following quotation:

p. 392, 92. *Sparus*. Teeth on the sides round, with flat summits. Jaws nearly fixed. 1. *Sargus* (*S. sargus*). 2. *Sparus* (*S. aurata*). 3. *Pagrus* (*S. pagrus*).

Accordingly, the premises presented by Doctor Jordan appear to be incomplete, for Fleming's action of 1828 in adopting *Sparus* for *Sparus aurata* is virtually simply an adoption of his action of 1822.

The same question and the same possibilities of interpretation now arise in respect to Fleming's action of 1822 in regard to *Sparus*, that arose in connection with his action of 1822 in regard to *Pleuronectes* (see Opinion No. 68, The Type of *Pleuronectes* L.).

While the evidence in the foregoing seems to point to the conclusion that *aurata* should be taken as type species of *Sparus* on basis of Fleming 1822, p. 392, it seems wise, in view of the possibility of a difference of opinion in regard to the interpretation, to follow the case further, in order to see how this view would coincide with the later history of the generic name.

Without entering upon a detailed discussion of this case, which involves many references in addition to those cited by Doctor Jordan, attention is invited to the facts that—

(a) Fleming's action of 1822 in retaining *Sparus* for the species *Sparus aurata* is followed by Fleming, 1828, and Fleming, 1842¹; and

(b) Cuvier's action of 1829 in placing the species *Sparus aurata* in the genus *Chrysophris*, 1829 (*Chrysophrys*, 1830) is followed by Swainson (1829), Cuvier & Valenciennes (1830), Burmeister (1837) who gives *Sparus* Linn. as synonym, Günther (1859), Ludwig's Leunis (1883), Claus (1885), Knauer (1887), R. Blanchard (1890), and Railliet (1895), while Apstein (1915a), definitely designates *Sparus aurata* as type of *Chrysophrys*.

From the two quotations given in the foregoing—1822 and 1828—it will be seen that in 1828 Fleming is simply reporting the presence of *Sparus aurata* in British waters, and that, "rigidly construed," he does not here designate a type species for the genus *Sparus*, but in 1822 he distinctly recognizes a typical subgenus (*Sparus* s. str.) to include Cuvier's 1817 "Les Daurades." Cuvier's 1829 genus *Chrysophris* (1830 *Chrysophrys*), therefore, includes Fleming's 1822 typical subgenus *Sparus*.

In answering the question presented by Doctor Jordan, the Commission is therefore of the opinion that Fleming, 1828, p. 211, did

¹ Also Jordan (1917a, 13, The genera of fishes).

not designate the type for *Sparus aurata* for British waters, and that in using the generic name *Sparus* for the species *Sparus aurata*, he simply acted nomenclaturally in accordance with his action of 1822.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Dautzenberg, Kolbe, Roule, Simon.

The foregoing Opinion was submitted to all Commissioners for vote and to more than 350 zoologists, zoological laboratories, colleges, and scientific institutions for comment. No adverse criticism has been received by the Secretary, but the following comments have been sent to him:

Commissioner Allen: Again it seems to me that Fleming may be correctly assumed to have fixed the type of *Sparus* in 1822 (by monotypy) as *Sparus aurata* Linn. Fleming's *Sparus* (1822 and 1828) = Les Daurades Cuvier (1817), to which Fleming appears to have been the first to assign a name, selecting *Sparus* for it.

While Fleming did not formally, or in the strict sense of Article 30 of the International Code, designate a type for either *Pleuronectes* or *Sparus*, I should not in the least hesitate, were I forced to give a decision in the case, to decide that, for all practical purposes, Fleming did indicate *Pl. platessa* L. as the type of *Pleuronectes*, and *Sp. aurata* L. as the type of *Sparus*; at least I should hold that such a decision was warranted by usage and in harmony with many precedents.

Commissioners Bather, Hartert, D. S. Jordan, and Stejneger: Same remarks as under Opinion 68.

Commissioner Hoyle: As regards *Sparus*, I am not clear about the action of Cuvier, 1817. If an author divides the genus and does not retain the original name for one of the parts, does not that render his action null and void? Or can we pick out one of his parts, apply the old name to that and neglect his new one?

Favorable opinions have been received from: P. P. Calvert, Barton W. Evermann, W. C. Kendall, Lewis Radcliffe, Hugh M. Smith, Oldfield Thomas, A. A. Tyler, and H. L. Viereck.

Miss Mary J. Rathbun: Also that *aurata* became the type of *Sparus* in 1822 by Fleming, and, therefore, he did not designate the type of that genus in 1828.

Doctor Pappenheim: See remarks under Opinion 68.

OPINION 70

THE CASE OF *LIBELLULA AMERICANA* L., 1758, VS. *LIBELLULA AMERICANUS* DRURY, 1773

SUMMARY.—In view of the fact that *Libellula americanus* Drury, 1773, is an evident *lapsus calami* for *Gryllus americanus*, the *lapsus* is to be corrected, and the specific name in this instance, *americanus* 1773, is not invalidated by *Libellula americana* 1758.

STATEMENT OF CASE.—A. N. Caudell presents the following case for opinion:

Shall the specific name *americanus* Drury, 1773, be suppressed in favor of *serialis* Thunberg, 1815?

The pertinent references are:

1770, Drury, Illustrations of Nat. Hist., vol. 1, plate 49.

1771, Linnæus, Mantissa Plantarum, p. 533.

1773, Drury, Illustrations of Nat. Hist., vol. 1, index.

1815, Thunberg, Mem. Acad. Imp. Sci., St. Petersb., vol. 5, p. 241.

Drury, 1770, figured two locusts, but used no names except an indication that figure 2 of the plate was related to [or identical with¹] *Gryllus tartaricus* of Linnæus.

Linnæus, 1771, refers to the above plate by Drury, and names figure 1 as *Gryllus ? squarrosus*.

Drury, 1773, in index, refers to the above work of Linnæus, quoting the name *squarrosus*, but the species is placed under the generic name *Libellula*. No. 2 of the plate is here given the specific name *americanus* and is, like the name *squarrosus* Linn., placed under *Libellula*.

Thunberg, 1815, described the species *Gryllus serialis*, which has been found to be a synonym of the above *americanus* of Drury.

In the tenth edition of Linnæus' Systema Naturæ, there is described a true dragon fly under the name *Libellula americana*, and thus the above combination of *Libellula americanus* by Drury apparently makes the latter a primary homonym. However, this inclusion of this species by Drury in the genus *Libellula* seems to be an error, or *lapsus calami*, for the following reason:

1. The insect *Gryllus tartaricus* of Linnæus, which Drury mentions in 1770 as related to his figure 2, is a locust, that is, the genus *Gryllus* as then used.

2. In the index of vol. 1 of Drury's Illustrations in 1773, mention is made of the reference of *squarrosus* to the genus *Gryllus* by Linnæus in 1771, and in the absence of other evidence there seems no reason to think Drury intended other than to follow him; *squarrosus* is figure 1 of the plate, and the second figure, *americanus*, also a locust, would clearly be treated the same.

3. The termination of the two species as appearing in the index, 1773, is "*us*," an ending agreeing with *Gryllus* but not with *Libellula*. It is to be noted, however, that Drury is not consistent in his termination, as in the index the names *cincta* and *squamosus* are included under the genus *Vespa*.

¹"I have not seen it anywhere described unless the insect mentioned by Linnæus . . . is the same with this."

4. The previous plate, no. 48, contains only dragon flies, that is, the genus *Libellula*, and the mistake of failing to change the name of the genus to *Gryllus* for the species figured on plate 49, either by the author or the typesetter, seems easy.

5. Drury was an entomologist and one not likely to mistake a locust for a dragon fly, and thus not liable to place this large grasshopper in a Neuropterous genus.

The above reasons make it quite clear that the inclusion of *americanus*, at its first appearance, in the genus *Libellula* was an error or a *lapsus calami*, and Art. 19 is apparently an authority for setting aside such reference.

DISCUSSION.—The Secretary has, in the presence of A. N. Caudell, verified the facts submitted in respect to *Libellula americanus* Drury, 1773, index, as applied to plate 49, figure 2, of Drury, 1770, and is convinced that a *lapsus* for *Gryllus americanus* is present.²

The portions of the Code which come into consideration in this case are as follows:

ARTICLE 35.—A specific name is to be rejected as a homonym (1) when it has previously been used for some other species of the same genus. Examples: *Tænia ovilla* Rivolta, 1878 (n. sp.), is rejected as homonym of *T. ovilla* Gmelin, 1790.

ARTICLE 19.—The original orthography of a name is to be preserved unless an error of transcription, a *lapsus calami*, or a typographical error is evident.

In the Code of the American Ornithologists' Union, 1892, p. 47, Canon 33, which corresponds to Articles 34 and 35 of the International Code, reads as follows:

A generic name is to be changed which has previously been used for some other genus in the same kingdom; a specific or subspecific name is to be changed when it has been applied to some other species of the same genus, *or used previously in combination with the same generic name*. [Italics not in the original.]

By a strict construction of Canon 33 of the A. O. U. Code, the interpretation might be made that *Libellula americanus* 1773, even though a *lapsus*, is invalidated by *Libellula americana* 1758.

The case in question is one of several of its kind that has come to the attention of the Secretary, but this is the first instance in which the Commission has been requested to render a definite opinion upon cases of this nature.

² A reference to Drury, 1782 (Illustrations of Nat. Hist., vol. 3, p. xviii, footnote), has been brought to the attention of the Secretary. This reads: "The reader is desired to correct an error in the index, where this and the following insect are ranked among the *Libellula*, but should be among the *Grilli Locusta*." This quotation supports the opinion as written.

It is clearly the intent of the International Code, as shown by Article 19, to permit the correction of an evident error of transcription, a *lapsus calami* or a typographical error, and upon basis of this intention the Secretary recommends that the Commission adopt as its opinion the following:

In view of the fact that *Libellula americanus* Drury, 1773, is an evident *lapsus calami* for *Gryllus americanus*, the *lapsus* is to be corrected, and the specific name in this instance, *americanus* 1773, is not invalidated by *Libellula americana* 1758.

Opinion written by Stiles.

Opinion concurred in by 15 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 3 Commissioners: Kolbe, Roule, Simon.

Bather agrees with the conclusion but submits evidence from Durrant contained in footnote, p. 73.

Hartert adds: The Commission has nothing to do with the A. O. U. Code.

K. Jordan adds: Article 35 is not clear. The expression "previously used for some other species in the same genus" is too general. It should be stated that the species *nov* at the time and published in combination with the "same generic name" are meant.

OPINION 71

INTERPRETATION OF THE EXPRESSION "TYPICAL SPECIES" IN
WESTWOOD'S (1840) SYNOPSIS.

SUMMARY.—The species cited by Westwood, 1840 (*An Introduction to the Modern Classification of Insects*, vol. 2, Synopsis, separate pagination, pages 1 to 158), as "typical species" are to be accepted as definite designations of genotypes for the respective genera. The question whether any given species under consideration represents the valid genotype or not is dependent upon two points: *First*, whether the species was available as genotype and, *second*, whether this designation in 1840 is antedated by some other designation.

STATEMENT OF CASE.—J. C. Crawford and Chas. H. T. Townsend have requested an Opinion upon the question whether the species cited by Westwood (1840) in his Synopsis, and designated "Typical species" are to be accepted as types of the genera in question. Dr. Townsend's presentation of the case reads as follows:

J. O. Westwood published in volume 2 of his *Introduction to the Modern Classification of Insects*, in 1840, under the title of "Synopsis of the Genera of British Insects," 158 octavo pages of generic diagnoses, including a specific name with each genus. With reference to the function of this specific name, we find footnote on first page stating that following data are given in first line of each genus: "1. Name of the genus; 2. Name of its founder; 3. Synonym of the genus; 4. Author of the synonymical genus; 5. Number of British species; 6. Typical species; 7. Reference to the best figure."

It is plainly evident that this "Synopsis" is entirely restricted to the British species, and that the selection of the "typical species" has necessarily been restricted in each case to the British fauna, thereby resulting often in a genotype that is not typical in the sense of the founder of the genus.

Does the Commission rule that mention in this "Synopsis" of the "typical species," meaning unquestionably "typical *British* species," constitutes a valid designation of genotype?

Westwood makes the following statement in the preface (p. vi, vol. 1) to his "Introduction":

"At the same time, in order that this work may serve as a precursor to the works of Curtis, Stephens, &c., I have added a synopsis of the British genera, brought down to the present time. The idea of the addition of this synopsis was derived from Latreille's "Considérations Générales," in which the genera are shortly characterised, and the names of the typical species given in an Appendix. The additions of generic synonymes, references to generic figures, and indications of the number of British species, will render the synopsis more complete, although it must be evident that it can serve but as a guide to more extended research."

C. H. T. T.

DISCUSSION.—The question has been submitted by the Secretary of this Commission to the Secretary of the International Commission on Entomological Nomenclature, who has reported as follows:

Although some members of the Entomological Committee are of opinion that Westwood did not mean to designate genotypes in the modern sense, it is unanimously agreed that the species mentioned by Westwood under a genus should be considered genotype, if it was originally included in the genus, and if no genotype has been designated prior to Westwood.

That some authors have used the expression "Typical species" simply in the sense of a characteristic example of a genus, and that others have used it in the sense of "Type species," seems quite clear. Accordingly each paper must be judged separately in deciding whether the case in question fulfills the requirements of the Code that "the meaning of the expression 'select the type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type."

In connection with Westwood's Synopsis, there are two points of evidence that seem to come into special consideration in arriving at an interpretation of his use of the expression "Typical species."

First, Westwood (1839, vol. 1, p. vi, Introduction to Modern Classification of Insects) distinctly states that "The idea of the addition of this synopsis was derived from Latreille's *Considérations Générales*, in which the genera are shortly characterised, and the names of the typical species given in an Appendix"; accordingly Westwood intended that his Synopsis with "Typical species" should correspond to Latreille's "Table des genres avec l'indication de *l'espèce qui leur sert de type*" [*italics not in the original*].

The Commission has already adopted the Opinion (no. 11, pp. 17-18) that Latreille's Table . . . "should be accepted as designation of types of the genera in question (Art. 30)." Accordingly, since Westwood definitely states that his idea was obtained from Latreille's (1810) publication, it would appear logical to conclude that Westwood's (1840) Synopsis also is to be construed as designation of genotype.

Second: The foregoing interpretation of Westwood's citation receives support in the fact that in his Synopsis (see the case of *Demetrias*) he cites the original generic name under which the species was published. For instance, on p. 1, he gives the following: "*Demetrias* Bonelli. *Rhysophilus* Leach. 4 sp. *Carab. atricapillus* Linn." This is a method of citation very common among authors who are designating genotypes, but it is relatively uncommon when an author is simply citing a species as an example of a genus. In the

latter case it is usually the custom to cite the specific name only in combination with the name of the genus for which it is quoted as an example.

On the basis of the foregoing premises the Secretary recommends that the Commission confirm the report from the Entomological Commission, and adopt as its opinion the following:

The species cited by Westwood, 1840 (An Introduction to the Modern Classification of Insects, vol. 2, Synopsis, separate pagination, pages 1 to 158), as "Typical species" are to be accepted as definite designations of genotypes for the respective genera. The question whether any given species under consideration represents the valid genotype or not is dependent upon two points: *First*, whether the species was available as genotype, and *second*, whether this designation in 1840 is antedated by some other designation.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Bather, Blanchard, Dautzenberg, Handlirsch, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 1 Commissioner: Apstein.

Not voting, 3 Commissioners: Kolbe, Roule, Simon.

Apstein signs the concurrence in the Opinion but adds: Ich halte es ausgeschlossen dass Westwood Type in unserem jetzigen Sinne gemeint hat. Sind Typen bis jetzt bestimmt, so sollen sie nicht zu Gunsten von Westwood geändert werden, wenn sie auch erst zwischen 1840-1916 bestimmt sind. [In the last line of the Opinion Apstein inserts between the words "other" and "designation" the expression "auch späteren (als 1840)"; thus in reality he dissents from the Opinion.—C. W. S.]

OPINION 72

HERRERA'S ZOOLOGICAL FORMULÆ

SUMMARY.—Designations of animals, according to the system proposed by Herrera in the case submitted for Opinion, are formulæ, and not names. Accordingly they have no status in Nomenclature, and are therefore not subject to consideration under the Law of Priority. No author is under obligation to cite these designations in any table of synonymy, index, or other list of names.

STATEMENT OF CASE.—W. Dwight Pierce submits the following case for opinion:

Herrera, in 1900, proposed to prefix all zoological generic names with a syllable to indicate class, and to terminate them with "us" or "s," and to place behind them certain initials further to assist in locating the genus: *Insapis mellifica* (I, Hy, A).

DISCUSSION.—The foregoing case was submitted, for consideration and report, to the International Commission on Entomological Nomenclature, from the Secretary (Karl Jordan) of which the following report has been received:

The case, though based on insects, is of a general nature, and therefore one for the Commission to deal with. It has been submitted to European Entomological Committees only. Ten members have given their opinion. All agree as follows:

According to Herrera's own showing, the *names* of the genera are *Apis*, *Musca*, *Otus*, etc. If any of these names should be preoccupied, the formulæ *Insmuscas*, *Insbombyxus*, etc., cannot be considered as replacing preoccupied names. If Herrera has published such a formula as a title for a new genus (*INSEXUS*), *EXUS* should be regarded as the name of the new genus. In quoting literally from the work of Herrera, the formula "*Insbombyxus*" should be placed between inverted commas, "...": "*Insmuscas*" *domestica*, without the initials following in Herrera's formula. If the quotation is *not literal*, *Musca*, *Bombyx*, etc., should be used.

K. J.

The Secretary to the International Commission on Zoological Nomenclature concurs in general with the foregoing report, but invites attention to certain features of the case submitted.

In principle, according to the premises submitted, the designations by Herrera are of essentially the same kind as the designations by Rhumbler, 1910, *Zoologischer Anzeiger*, pp. 453 to 471, and *Verhandlungen des VII Internationalen Zoologen-Kongresses, zu Graz, 1910* (published 1912), pp. 859 to 874.

The following case is an example which illustrates Rhumbler's system:

Pachynodon reverendus Amegh. Eupachnodontos †reverendos A. m ! !=
fossiler Ungulate aus dem östlichen Südamerika.—E = Säugetier; u =
Ungulat.

It has long been a principle in zoological nomenclature that a name is only a name. For instance, the Code of Nomenclature adopted by the American Ornithologists' Union, 1892, pp. 21-22, contains the following:

PRINCIPLE V.—A name is only a name, having no meaning until invested with one by being used as the handle of a fact; and the meaning of a name so used, in zoological nomenclature, does not depend upon its signification in any other connection.

REMARKS.—The bearing of this principle upon the much desired *fixity* of names in Zoology, and its tendency to check those confusing changes which are too often made upon philological grounds, or for reasons of ease, elegance, or what not, may be best illustrated by the following quotation:

"It being admitted on all hands that words are only the conventional signs of ideas, it is evident that language can only attain its ends effectually by being permanently established and generally recognized. This consideration ought, it would seem, to have checked those who are continually attempting to subvert the established language of zoology by substituting terms of their own coinage. But, forgetting the true nature of language, they persist in confounding the *name* of a species or [other] group with its *definition*; and because the former often falls short of the fulness of expression found in the latter, they cancel it without hesitation, and introduce some new term which appears to them more characteristic, but which is utterly unknown to the science, and is therefore devoid of any authority.¹ If these persons were to object to such names of men as *Long*, *Little*, *Armstrong*, *Golightly*, etc., in cases where they fail to apply to the individuals who bear them, or should complain of the names *Gough*, *Lawrence*, or *Harvey*, that they were devoid of meaning, and should hence propose to change them for more characteristic appellations, they would not act more unphilosophically or inconsiderately than they do in the case before us; for, in truth, it matters not in the least by what conventional sound we agree to designate an individual object, provided the sign to be employed be stamped with such an authority as will suffice to make it pass current."

(*B. A. Code*, 1842)

These words, which in the original lead up to the consideration of the "law of priority," seem equally sound and pertinent in connection with the above principle of wider scope.

Regeln für die wissenschaftliche Benennung der Thiere zusammengestellt von der Deutschen Zoologischen Gesellschaft, 1894, p. 5, paragraph 5c, states:

¹ Linnæus says on this subject: "Abstinendum ab hac innovatione quæ numquam cessaret, quin indies aptiora detegerentur ad infinitum."

c. Ein Name darf nicht verworfen oder geändert werden etwa aus dem Grunde, weil er "nicht bezeichnend" ist oder weil seine Bildung "unter Missachtung philologischer Sprachregeln" erfolgte oder "weil er zu lang ist, schlecht klingt" und so weiter; doch sind fortan derartige fehlerhafte Wortbildungen, z. B. hybride Wörter, zu vermeiden.

Es darf z. B. der Name *Oriolus persicus* L. nicht etwa deshalb geändert werden, weil es ein amerikanischer, in Persien nicht vorkommender Vogel ist, oder *Voluta lapponica* L., weil es eine indische, in Lappland nicht vorkommende Schnecke ist. Auch Artbezeichnungen mit gleichem Art- und Gattungsnamen sind daher zulässig, z. B. *Buteo buteo*, *Arctus arctus*.

Article 32 of the International Code reads as follows:

A generic or specific name, once published, cannot be rejected, even by its author, because of inappropriateness. Examples: Names like *Polyodon*, *Apus*, *albus*, etc., when once published are not to be rejected because of a claim that they indicate characters contradictory to those possessed by the animals in question.

Rhumbler's proposition was discussed informally by several of the members of the Commission at the Gratz meeting, and their interpretation was to the effect that the designations suggested by Rhumbler represented formulæ and not names, hence that they had no status whatever under the Code.

Were these to be accepted as names, they could not be changed in case it was discovered later that they had been given erroneous prefixes designating classification. Further, the prefix *Eu* would lead to confusion because of such names as *Eustrongylus*—a nematode, not a mammal (E) ungulate (u).

It is obvious that the formulæ in question suggested by Rhumbler and by Herrera would not be clear to readers unless they had constantly at hand the keys to these formulæ. Accordingly, in general usage it would be impossible for the average reader clearly to recognize which portions of the formulæ represented generic names and which portions designated classification, or whether a formula or a name were present (cf. *Eustrongylus*) and this confusion would be increased by changes in the classification. The result would be a chaotic condition in Nomenclature, in which it would be impossible for the average reader to orientate himself.

If, on the other hand, the entire combination of letters and punctuation marks adopted were accepted as the technical name, the combinations resulting from change of names depending upon change of knowledge in respect to classification and distribution would be such as to outweigh any possible advantage that could be gained by recognizing the combinations as names, since as names they would not be in this case subject to emendation.

Finally, the propositions made by Rhumbler and Herrera have never been adopted in the International Code, and the only paragraph in the Code which, in the most liberal interpretation, could be cited in favor of these designations is Article 8, Recommendation k, which provides that one may take as generic names:

Words formed by an arbitrary combination of letters. Examples: *Neda*, *Clanculus*, *Salifa*, *Torix*.

Recommendation k, however, was written without any consideration of cases such as are proposed by Rhumbler and Herrera, and the formulæ in question are admittedly not arbitrary combinations of letters.

In view of the foregoing premises, the Secretary recommends that the Commission adopt as its Opinion the following:

Designations of animals, according to the system proposed by Herrera in the case submitted for opinion, are formulæ, and not names. Accordingly they have no status in Nomenclature, and are therefore not subject to consideration under the Law of Priority. No author is under obligation to cite these designations in any table of synonymy, index, or other list of names.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Hartert, Kolbe, Roule, Simon.

Bather: The whole matter seems to be still simpler than this elaborate Opinion (with which I entirely agree), viz., Herrera and Rhumbler were merely making proposals of a general nature; they were in fact proposing a new scheme of nomenclature. Their proposals were not accepted and we have nothing to do with their suggested examples.

Jordan (D. S.): By all means discourage this sort of thing.

Monticelli: Perfettamente d'accordo.

OPINION 73

FIVE GENERIC NAMES IN CRINOIDEA, EIGHTY-SIX GENERIC NAMES IN CRUSTACEA, AND EIGHT GENERIC NAMES IN ACARINA, PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: CRINOIDEA: *Antedon*, *Bathyrinus*, *Holopus*, *Metacrinus*, *Rhizocrinus*. CRUSTACEA: *Acanthocyclus*, *Actæa*, *Actæomorpha*, *Actumnus*, *Arcania*, *Archias*, *Arenæus*, *Atergatis*, *Atergatopsis*, *Banarcia*, *Bathynectes*, *Bellia*, *Benthochascon*, *Caphyra*, *Carpilius*, *Carpilodes*, *Carpoporus*, *Carupa*, *Chlorodopsis*, *Cænophthalmus*, *Corystoides*, *Cryptocnemus*, *Cyclodius*, *Cymo*, *Dacryopilumnus*, *Daira*, *Deckenia*, *Domccia*, *Ebalia*, *Epilobocera*, *Epimclus*, *Erimacrus*, *Erimetopus*, *Euphylax*, *Favus*, *Gecarcinucus*, *Hepatella*, *Heterolithadia*, *Heteronucia*, *Heterozius*, *Hydrothelphusa*, *Iliacantha*, *Iphiculus*, *Iphis*, *Ixa*, *Leucosilia*, *Lissocarcinus*, *Lithadia*, *Lupocyclus*, *Microcryptus*, *Myrodes*, *Nucia*, *Nursia*, *Nursilia*, *Onychomorpha*, *Oreophorus*, *Osachila*, *Paracyclois*, *Parathelphusa*, *Parathranites*, *Parilia*, *Pariphiculus*, *Persephona*, *Phlyxia*, *Pirimela*, *Platymera*, *Podophthalmus*, *Polybius*, *Portumnus*, *Potamocarcinus*, *Potamonautes*, *Pseudophilyra*, *Pseudothelphusa*, *Randallia*, *Scylla*, *Spelæophorus*, *Sphærocarcinus*, *Telmessus*, *Thalamita*, *Thalamitoides*, *Thalamonyx*, *Tlos*, *Trachycarcinus*, *Trichodactylus*, *Trichopeltarion*, *Valdivia*. ACARINA: *Amblyomma*, *Argas*, *Dermacentor*, *Hæmaphysalis*, *Hyalomma*, *Ixodes*, *Rhipicentor*, *Rhipiccephalus*.

STATEMENT OF CASE.¹—*Crinoidea*. The following five generic names in Crinoidea were submitted to the International Commission by Mr. Austin Hobart Clark, Secretary to the Advisory Committee on the Nomenclature of Echinoderms, with recommendation that they be placed in the Official List of Generic Names. Mr. Clark reported that all of these names are in general use, that under the International Rules they are nomenclatorially correct and valid, and that no question or objection can arise as to their status. The names were brought to the attention of the zoological profession in the Secretary's Circular Letter no. 7, dated May, 1915. In reply to this [Circular Letter no. 7], no person has raised any question or objection of any kind whatsoever to the five names here submitted for final vote. These same five names, with identical types, were sub-

¹ Abbreviations used in the above and following lists:

tod = Type by original designation.

tpd = Type by present designation.

tsd = Type by subsequent designation.

mt = Type by monotypy.

mitted to the Commission independently by Apstein (1915a, 129) upon recommendation of Döderlein (Strassburg).

Antedon de Fréminville, 1811, 349 (Bull. Soc. Philom., Paris, vol. 2), type, *A. gorgonia* = *Asterias bifida* Pennant, 1777.

Bathycrinus Wyville-Thompson, 1872, 772 (Proc. Roy. Soc. Edinb., vol. 7), type, *B. gracilis*.

Holopus d'Orbigny, 1837, 1 (Mag. Zool., 7 ann., classe 10), type *H. rangii* d'Orbigny.

Metacrinus (Wyville-Thomson MS. in) Carpenter, 1882, 167 (Bull. Mus. Comp. Zool. Camb., vol. 10 (4), tsd. (Clark 1908t, 527), *M. wyvillii* Carpenter, 1884.

Rhizocrinus M. Sars, 1864, 127 (Forhandl. Vidensk. Selsk.), type, *R. lofotensis*.

Crustacea. A list of 99 generic names in Crustacea was submitted to the Commission by Miss Mary J. Rathbun, Secretary to the Advisory Committee on the Nomenclature of Crustacea, who reported that, under the International Rules, she considered the names nomenclatorially correct and valid, and she recommended that they be placed in the Official List of Generic Names.

The list in question was brought to the attention of the zoological profession in the Secretary's Circular Letter no. 4, dated April, 1915, and a special effort was made to reach specialists in the group. Replies have been received from various zoologists including W. T. Calman, Stanley Kemp, J. S. Kingsley, J. G. de Man, and Thomas R. R. Stebbing.

Every name has been eliminated from the original list in regard to which either the foregoing or any other zoologist has raised the slightest objection or question in their correspondence with the Secretary of the Commission, and said names have been referred again to Miss Rathbun for further opinion.

The following list of eighty-six generic names (for bibliography see footnote²) contains no name or type designation to which the slightest question or objection has been raised by any person:

² BIBLIOGRAPHY

ADAMS and WHITE, 1848, Zool. Voy. H. M. S. Samarang, Crust.

ALCOCK, 1896, Jour. Asiatic Soc., Bengal, v. 65, pt. 2, No. 2.

ALCOCK and ANDERSON, 1899, Ann. Mag. Nat. Hist. (7), v. 3.

BELL, 1855, Trans. Linn. Soc., Lond., v. 21.

BENEDICT, 1892, Proc. U. S. Nat. Mus., v. 15.

DANA, 1851, Am. Journ. Sci. (2), v. 12.

—, 1852, Crust. U. S. Expl. Exped., v. 1.

EYDOUX and SOULEYET, 1842, Voy. Bonite, v. 1, Crust.

FAXON, 1893, Bull. Mus. Comp. Zool., v. 24.

GUÉRIN, 1830, Voy. Coquille, Zool., v. 2, Crust.

Acanthocyclus Milne Edwards and Lucas, 1844, 29, mt. *A. gayi* Milne Edwards and Lucas, 1844.

DE HAAN, 1833, Fauna Japonica.

HILGENDORF, 1869, S. B. Ges. Naturf. Freunde, Berlin, Jan. 21, 1868.

LAMARCK, 1801a, Syst. Anim. sans Vert.

LANCHESTER, 1900, Proc. Zool. Soc., Lond., pt. 3.

LATREILLE, 1825, Encyc. Méth., v. 10.

—, 1829a, Cuvier's Règne Anim. (2), v. 4, footnote.

LEACH, 1814, Edin. Encyc.

—, 1815a, Trans. Linn. Soc., Lond., v. 11.

—, 1816, Mal. Podoph. Brit., text of pl. 3.

—, 1817a, Zool. Misc., v. 3.

—, 1817b, Mal. Podoph. Brit., text of pl. 25.

—, 1820, Mal. Podoph. Brit., text of pl. 9B.

LEACH in Desmarest, 1823, Dict. Sci. Nat., v. 28.

MACLEAY, 1838, Zool. S. Africa, Annulosa.

MIERS, 1877, Journ. Linn. Soc., Lond., v. 13.

—, 1879, Proc. Zool. Soc., Lond.

—, 1886, Chall. Rep. Zool., v. 17.

MILNE EDWARDS, 1837, Hist. Nat. Crust., v. 2.

—, 1844, Jacquemont's Voy. dans l'Inde, v. 4, Zool. Crust.

—, 1848, Ann. Sci. Nat. (3), v. 9.

—, 1853, Ann. Sci. Nat. (3), v. 20.

—, 1865, Ann. Soc. Entom., France (4), v. 5.

—, 1867, Ann. Soc. Entom., France (4), v. 7.

—, 1869a, Ann. Soc. Entom., France (4), v. 9.

—, 1869b, Nouv. Arch. Mus. Nat., Paris, v. 5.

—, 1872, Ann. Sci. Nat. (5), v. 15.

—, 1873a, Jour. Mus. Godeffroy, v. 4.

—, 1873b, Nouv. Arch. Hist. Nat., Paris, v. 9.

—, 1878, Bull. Soc. Philom. (7), v. 2.

—, 1879, Crust. Règ. Mex.

—, 1880, Bull. Mus. Comp. Zool., v. 8.

MILNE EDWARDS, and LUCAS, 1844, d'Orbigny's Voy. l'Amér. Mérid., v. 6, pt. 1.

NOBILI, 1906, Bull. Mus. Hist. Nat., Paris.

PAULSON, 1875, Invest. Crust. Red Sea, v. 1.

RATHBUN, 1894, Proc. U. S. Nat. Mus., v. 17.

RÜPPEL, 1830, Krabben d. rothen Meeres.

SAUSSURE, 1857, Rev. et Mag. Zool. (2), v. 9.

SMITH, 1870, in Verrill, Amer. Nat., v. 3.

STIMPSON, 1857, Proc. Bost. Soc. Nat. Hist., v. 6.

—, 1858, Proc. Acad. Nat. Sci., Phila., v. 10.

—, 1860, Ann. Lyc. Nat. Hist., N. Y., v. 7.

—, 1871, Bull. Mus. Comp. Zool., v. 2.

WHITE, 1846, Ann. Mag. Nat. Hist., v. 17.

—, 1847, Proc. Zool. Soc., Lond., v. 15.

WOOD-MASON, 1891, Ann. Mag. Nat. Hist. (6), v. 7.

ZEHNTNER, 1894, Rev. Suisse Zool., v. 17.

- Actæa* de Haan, 1833, 4, 18, tpd. (1st sp.) *A. savignii* Milne Edwards, 1834 = *Cancer (Actæa) granulatus* de Haan, 1833 = *C. granulatus* Audouin, 1825, not *C. granulatus* Linnæus, 1758.
- Actæomorpha* Miers, 1877, 183, mt. *A. crosa* Miers, 1877.
- Actumnus* Dana, 1851, 128, tpd. (1st sp.) *A. tomentosus* Dana, 1852. Species not named until 1852.
- Arcania* Leach, 1817, 19, mt. *A. erinacca* = *Cancer erinaceus* Fabricius, 1787.
- Archias* Paulson, 1875, 56, mt. *A. sexdentatus* Paulson, 1875.
- Arenæus* Dana, 1851, 130, mt. *A. cribrarius* = *Lupa cribraria* Milne Edwards, 1834 = *Portunus cribrarius* Lamarck, 1818.
- Atergatis* de Haan, 1833, 4, 17, tpd. (1st sp.) *Cancer (Atergatis) integerrimus* de Haan, 1833 = *C. integerrimus* Lamarck, 1818.
- Atergatopsis* A. Milne Edwards, 1862, 43, Ann. Sci. Nat. (4), v. 18, mt. *Carpilius signatus* White, 1848.
- Banarcia* A. Milne Edwards, 1869, 168, mt. *B. armata* A. Milne Edwards, 1869.
- Bathynectes* Stimpson, 1871, 145, tod. *B. superba* = *Portunus superba* Costa, 1838? = *B. longispina* Stimpson, 1871.
- Bellia* Milne Edwards, 1848, 192, mt. *B. picta* Milne Edwards, 1848.
- Benthochascon* Alcock and Anderson, 1899, 10, mt. *B. hemingi* Alcock and Anderson, 1899.
- Caphyra* Guérin, 1830, 26, mt. *C. rouxii* Guérin, 1830.
- Carpilius* Leach in Desmarest, 1823, 228, mt. *C. maculatus* Fabricius = *C. maculatus* Linnæus, 1758.
- Carpilodes* Dana, 1851, 126, mt. *C. tristis* Dana, 1852. Species not named until 1852.
- Carpoporos* Stimpson, 1871, 138, mt. *C. papulosus* Stimpson, 1871.
- Carupa* Dana, 1851, 129, mt. *C. tenuipes* Dana, 1852. Species not named until 1852.
- Chlorodopsis* A. Milne Edwards, 1873, 227, tpd. (1st sp.) *C. melanochirus* A. Milne Edwards, 1873.
- Cænophthalmus* A. Milne Edwards, 1879, 236, mt. *C. tridentatus* A. Milne Edwards, 1879.
- Corystoides* Milne Edwards and Lucas, 1844, 31, mt. *C. chilensis* Milne Edwards and Lucas, 1844.
- Cryptocnemus* Stimpson, 1858, 161, mt. *C. pentagonus* Stimpson, 1858.
- Cyclodius* Dana, 1851, 126, tpd. (1st sp.) *C. ornatus* Dana, 1852. Species not named until 1852.
- Cymo* de Haan, 1833, 5, 22, type *Cancer (Cymo) androssiji* de Haan, 1833 = *Pilumnus* (?) *androssyi* Audouin, 1825. Only valid species; the remaining species given by de Haan is a *nomen nudum*.
- Dacryopilumnus* Nobili, 1906, 263, mt. *D. eremita* Nobili, 1906.
- Daira* de Haan, 1833, 4, 18, mt. *D. perlata* = *Cancer (Daira) perlatus* de Haan, 1833 = *C. perlatus* Herbst, 1790.
- Deckenia* Hilgendorf, 1869, 2, mt. *D. imitatrix* Hilgendorf, 1869.
- Domecia* Eydoux and Souleyet, 1842, 234, mt. *D. hispida* Eydoux and Souleyet, 1842.
- Ebalia* Leach, 1817, tpd. (1st sp.) *E. tuberosa* = *Cancer tuberosus* Pennant, 1777 = *pennanti* Leach, 1817.
- Epilobocera* Stimpson, 1860, 234, mt. *E. cubensis* Stimpson, 1860.
- Epimelus* A. Milne Edwards, 1878, 227, mt. *E. cessacii* A. Milne Edwards, 1878.

- Erimacrus* Benedict, 1892, 220, substituted for *Podacanthus*, mt. *Platycorystes* (*Podacanthus*) *isenebeckii* Brandt, 1848.
- Erimetopus* Rathbun, 1894, 26, Proc. U. S. Nat. Mus., v. 17, mt. *E. spinosus* Rathbun, 1894.
- Euphyllax* Stimpson, 1860, 225, mt. *E. dovii* Stimpson, 1860.
- Favus* Lanchester, 1900, 767, mt. *F. granulatus* Lanchester, 1900.
- Gecarcinus* Milne Edwards, 1844, 4, mt. *G. jacquemontii* Milne Edwards, 1844.
- Hepatella* Smith, 1870, 250, mt. *H. amica* Smith, 1870.
- Heterolithadia* Alcock, 1896, 171, 261, mt. *H. fallax* = *Ebalia fallax* Henderson, 1893.
- Heteronucia* Alcock, 1896, 170, 177, Jour. Asiatic Soc. Bengal, v. 65, pt. 2, No. 2, mt. *H. vesiculosa* Alcock, 1896.
- Heterozius* A. Milne Edwards 1867, 275, mt. *H. rotundifrons* A. Milne Edwards, 1867.
- Hydrothelphusa* A. Milne Edwards, 1872, 2, mt. *H. agilis* A. Milne Edwards, 1872.
- Iliacantha* Stimpson, 1871, 155, tpd. (1st sp.) *I. subglobosa* Stimpson.
- Iphiculus* Adams and White, 1848, 57, mt. *I. spongiosus* Adams and White, 1848.
- Iphis* Leach, 1817, 19, 25, mt. *I. septemspinosa* = *Leucosia septemspinosa* Fabricius, 1798 = *Cancer septemspinus* Fabricius, 1787.
- Ixa* Leach, 1815, 310, 334, mt. *I. cylindrus* = *Cancer cylindrus* Fabricius, 1777.
- Leucosilia* Bell, 1855, 295, mt. *L. jurinei* = *Guaia* (*Ilia*) *jurinei* Saussure, 1853 = *L. jurinii* Bell, 1855.
- Lissocarcinus* Adams and White, 1848, 45, mt. *L. polybioides* Adams and White, 1848.
- Lithadia* Bell, 1855, 305, mt. *L. cumingii* Bell, 1855.
- Lupocyclus* Adams and White, 1848, 46, mt. *L. rotundatus* Adams and White, 1848.
- Merocryptus* A. Milne Edwards, 1873, 84, mt. *M. lambriformis* A. Milne Edwards, 1873.
- Myrodes* Bell, 1855, 298, mt. *M. cudactylus* Bell, 1855.
- Nucia* Dana, 1852, 392, 397, mt. *N. speciosa* Dana, 1852.
- Nursia* Leach, 1817, 18, mt. *N. hardwickii* Leach, 1817.
- Nursilia* Bell, 1855, 308, mt. *N. dentata* Bell, 1855.
- Onychomorpha* Stimpson, 1858, 162, mt. *O. lamelligera* Stimpson, 1858.
- Oreophorus* Rüppell, 1830, 18, mt. *O. horridus* Rüppell, 1830.
- Osachila* Stimpson, 1871, 154, mt. *O. tuberosa* Stimpson, 1871.
- Paracyclois* Miers, 1886, 288, mt. *P. milne-edwardsii* Miers, 1886.
- Parathelphusa* Milne Edwards, 1853, 213 (179), tsd. (Rathbun, 1905) *P. tridentata* Milne Edwards, 1853. In the above mentioned article references are made to the Arch. Mus. Hist. Nat. Paris, v. 7; that the former was, however, published first is recognized in Arch. f. Naturg., Jhg. 20, v. 2, 1855, p. 285.
- Parathranites* Miers, 1886, 185, mt. *Lupocyclus* (*Parathranites*) *orientalis* Miers, 1886.
- Parilia* Wood-Mason, 1891, 264, mt. *P. alcocki* Wood-Mason, 1891.
- Pariphiculus* Alcock, 1896, 171, 257, tpd. (1st sp.) *P. coronatus* = *Randallia coronata* Alcock and Anderson, 1894.

- Persephona* Leach, 1817, 18, 22, tpd. (1st sp.) *P. punctata* = *Cancer punctatus* Linn., 1758 (part) = *Cancer punctatus* Linn., 1767 = *P. latreilli* Leach, 1817 = *P. lamarckii* Leach, 1817.
- Phlyxia* Bell, 1855, 303, tpd. (1st sp.) *P. crassipes* Bell, 1855.
- Pirimela* Leach, 1816, mt. *P. denticulata* = *Cancer denticulatus* Montagu, 1808.
- Platymera* Milne Edwards, 1837, 107, mt. *P. gaudichaudii* Milne Edwards, 1837.
- Podophthalmus* Lamarck, 1801, 152, mt. *P. vigil* = *Portunus vigil* Fabricius, 1798 = *Podophthalmus spinosus* Lamarck, 1801. In 1801 Lamarck wrote "*Podophthalmus*" but later (1818) "*Podophthalmus*."
- Polybius* Leach, 1820, mt. *P. henslowii* Leach, 1820.
- Portumnus* Leach, 1814, 391, 429, mt. *P. latipes* = *Cancer latipes* Pennant, 1777 = *P. variegatus* Leach, 1814.
- Potamocarcinus* Milne Edwards, 1853, 208 (174), mt. *P. armatus* Milne Edwards, 1853.
- Potamonantes* MacLeay, 1838, 64, type *Thelphusa perlata* Milne Edwards, 1837; the only species designated by name by MacLeay.
- Pseudophilyra* Miers, 1879, 40, tpd. (1st sp.) *P. tridentata* Miers, 1879.
- Pseudothelphusa* Saussure, 1857, 305, mt. *P. americana* Saussure, 1857. Originally written *Pseudo-Thelphusa*.
- Randallia* Stimpson, 1857, Feb., 85, mt. *R. ornata* = *Ilia ornata* Randall, 1839.
- Scylla* de Haan, 1833, 3, 11, mt. *S. serrata* = *Cancer serratus* Forskål, 1775 = *Portunus (Scylla) serratus* de Haan, 1833. Only two species were given by de Haan, and they are synonymous.
- Spelæophorus* A. Milne Edwards, 1865, 148, tpd. (1st sp.) *S. nodosus* = *Oreophorus nodosus* Bell, 1855.
- Sphærocarcinus* Zehntner, 1894, 163, mt. *S. bedoti* Zehntner, 1894.
- Telmessus* White, 1846, 497, mt. *T. cheiragonus* = *T. serratus* White, 1846 = *Cancer cheiragonus* Tilesius, 1815.
- Thalamita* Latreille, 1829, 33, mt. *Cancer admets* Herbst, 1803.
- Thalamitoides* A. Milne Edwards, 1869, 146, tpd. (1st sp.) *T. quadridens* A. Milne Edwards, 1869.
- Thalamonyx* A. Milne Edwards, 1873, 168, tpd. (1st sp.) *Goniosoma danæ* A. Milne Edwards, 1869.
- Tlos* Adams and White, 1848, 57, mt. *T. muriger* Adams and White, 1848.
- Trachycarcinus* Faxon, 1893, 156, mt. *T. corallinus* Faxon, 1893.
- Trichodactylus* Latreille, 1825, 705, mt. *T. fluviatilis* Latr. 1825.
- Trichopeltarion* A. Milne Edwards, 1880, Dec. 29, 19, mt. *T. nobile* A. Milne Edwards, 1880.
- Valdivia* White, 1847, 85, mt. *V. serrata* White, 1847.

ACARINA. The following eight names in *Acarina (Ixodoidea)* have been made public to the zoological profession by publication in the following journals: Bull. Soc. Zool. France, 1915, p. 88, v. 40; Nature, 1911, p. 42, v. 88; Proc. Int. Cong. Zool. Monaco, 1913, published 1914, p. 859; Zoologischer Anzeiger, 1911, pp. 589-590, v. 38.

In addition they were brought to the attention of the zoological profession in the Secretary's Circular Letter no. 1, 1915.

The same list was submitted in Circular Letter no. 10, dated July, 1915, addressed to the members of the International Commission on Medical Zoology (Parasitology).

The list has also been submitted to Dr. Hassall, Secretary to the Advisory Committee on the Nomenclature of the Ixodoidea, and he reports favorably upon them. Finally the names were submitted to Doctor Jordan, Secretary to the International Commission on Entomological Nomenclature, and word has been received from him recommending that the Commission proceed to vote on the names in question.

Not a single objection or question of any kind has been received at the Secretary's office in regard to these names.

All of the generic names have been verified personally by the Secretary to the Commission on Zoological Nomenclature, and he considers them nomenclatorially correct and valid.

Amblyomma Koch, 1844a, 223-231 (Arch. Naturg.), type *Acarus cajennensis* Fabricius, 1787a.

Argas Latreille, 1796a, 178 (Précis), type *Acarus reflexus* Fabricius, 1794.

Dermacentor Koch, 1844a, 235-237, type *Acarus reticulatus* Fabricius, 1794.

Hæmaphysalis Koch, 1844a, 237, type *H. concinna* Koch, 1844.

Hyalomma Koch, 1844a, 220-223, type *Acarus ægyptius* Linn., 1758.

Ixodes Latreille, 1796a, 179, type *Acarus ricinus* Linnaeus, 1758.

Rhipicentor Nuttall and Warburton, 1908, 398 (Proc. Cambridge Phil. Soc., vol. 14), mt. *R. bicornis* N. & W., 1908.

Rhipicephalus Koch, 1844a, 238-239, type *Ixodes sanguineus* Latreille, 1806.

DISCUSSION.—In view of the foregoing premises, and on basis of the study given by specialists in each of the three groups in question, the Secretary recommends that the foregoing names be placed in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by 13 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 5 Commissioners: Handlirsch, Kolbe, Roule, Simon, Stejneger.

Apstein: Sollen die Off. Listen von Gattungsnamen wirklich durch Ummengen beliebiger Namen beschwert werden? Von den 92 Namen Crustaceen sind die meisten wohl überflüssig, da kein Zweifel möglich ist. Es ist eine Kleinigkeit mehrere 1,000 Namen zu notieren, aber was ist damit erreicht? Entweder soll man eine kleine Zahl wichtiger, all bekannter und streittiger Gattungen aufnehmen oder alle Gattungen, dann ergibt sich ein dicker Band.

Dautzenberg: Je ne puis approuver des listes des nomina conservanda, si les noms qu'elles enferment sont considérés comme devant subsister et continuer à être employés alors même qu'on s'apercevrait un jour que l'un ou l'autre est en contradiction avec la loi de priorité. Mais s'il est entendu que les listes dressées par des spécialistes compétents ne pourront être modifiées que s'il est clairement démontré que tel ou tel nom est en contradiction évidente avec la loi de priorité, je suis prêt à apposer ma signature au bas de ces listes.

Jordan (D. S.): I have no objection, but I think that a study beginning from Linnæus and proceeding upward will save time.

Stiles: The problem is not a theoretical one as to what is the *best* way to establish an Official List, or what kind of a list to establish, but rather what is *any* way to meet the divergent views of scores of independent workers and make progress by voluntary (namely unpaid) cooperation. A long list of Nomina Conservanda has been proposed by one Commissioner (Apstein) and this has brought to the Secretary a storm of protests together with urgent appeals from general zoologists to establish some sort of list so that nomenclature will be more stable. Careful studies of various groups have been made by various Commissioners and other zoologists, but numerous cases and questions have been left open and undecided. A Code has been adopted which covers the vast majority of cases and persons who understand nomenclature can apply these rules to most of the names with which they have to deal. Still, up to recent years the striking trend of nomenclature has been to emphasize differences rather than agreements of views as respects names. The Official List is an attempt to allow the troubled waters to settle awhile and *to see in how far we all agree*; thus it is trying out a new technique in the hope of obtaining results, and the more names that can be shown to be acceptable to all workers, despite divergent views as to *why* they are acceptable, the more settled will be the subject of nomenclature, even if many disputed points must be left to future generations.

To insist at present upon an immediate application of the Code to *all* disputed cases or to an adoption of Nomina Conservanda to cover *all* disputed cases would inevitably result in two independent nomenclatures and this is not practical until we find out which are the disputed names, into what categories these can be classified, and why they are in dispute. Herein lies the value in comparing the Apstein (Nomina Conservanda) and the Jordan (Priority) lists. When certain generic names of fishes appear in both lists, and are

placed in an Official List, while other names show disagreement, we obtain a clearer vision of our problems.

The Official List has a chief object and a chief result in view: The chief object is to give to the general zoologists a list of names which, so far as can humanly be determined, seem to be beyond dispute; the chief result is to find out where we all can agree, thereby bringing us all more closely together before we reach the final differences of opinion on cases which are in dispute.

The outlook for settling *all* cases by *any one* method in our generation is hopeless—unless we can change human nature. Our lives in general are made up of a series of compromises in policies in order to carry out principles; nomenclature can hardly hope to escape this same necessity. The great principles in nomenclature are (1) stability in so far as this is possible under a system of changing conceptions as to classification, and (2) objectivity as to selection between competitive names; the methods by which these desiderata are to be reached are dependent fully as much upon policy as upon principle, and secondary principles can well afford to make way for policies which, by compromises, hold out hope for success of the primary principle.

OPINION 74

APSTEIN'S (1915) LIST OF NOMINA CONSERVANDA

SUMMARY.—The Commission has no power to adopt *en bloc* Apstein's list of proposed Nomina Conservanda, but is prepared to consider names separately upon presentation of reasonably complete evidence.

PRESENTATION OF CASE.—Commissioner Apstein has submitted to the Commission a list of Nomina Conservanda which was printed in the Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, No. 5, Mai, 1915, pages 119-202, and which he suggests be used as basis for studies, the results of which can be submitted to the next International Zoological Congress. The printed document is herewith accepted as Presentation of Case, and reference is made to the printed list for details. Copies of the list have been mailed to members of the Commission, and the Secretary's Circular Letter no. 19, December, 1915, contains the correspondence on the subject, between Commissioner Apstein and the Secretary.

DISCUSSION.—An examination of different portions of Apstein's list shows clearly that although full data are not presented in respect to the individual names, many of the generic names quoted are valid under the Code, and in many cases the type species cited is correct. On the other hand, the list contains some names that are not valid under the Code, and in some cases the type species cited is not the correct genotype under the Code.

The list in question corresponds, nevertheless, to the general invitation issued by the Commission in its report to the Gratz Congress, to send to the Secretary of the Commission zoological generic names to be studied in connection with the preparation of an Official List of Generic Names, and whatever may be the individual opinion of zoologists in respect to the names in question, Commissioner Apstein has accomplished an excellent piece of work in compiling this list and thus bringing to the attention of the Commission a number of names that are, more or less, in general use by various zoologists.

It is equally clear, however, that the Commission has no authority either under the Rules, or under its Plenary Power, to act upon this list as a unit.

The Secretary has submitted several groups of names to specialists in the respective groups for special study, and has already placed some of the names before the Commission, for vote.

In order that definite action may be taken upon the general question concerning this list, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) The Commission is not authorized, either under the Rules, or under the Plenary Power, to adopt *en bloc* the list of names presented by Commissioner Apstein.

(2) The Secretary is authorized and instructed to submit to the Commission for adoption in the Official List of Generic Names, any of the names in Apstein's (1915a) List for which he may be able to find proper authority under the Rules.

(3) The Commission invites Commissioner Apstein to submit full data respecting any name in said list which he considers should be adopted under the Plenary Power, said data to show that "a strict application of the Rules will result in greater confusion than uniformity."

(4) The Commission can, at least for the present, consider names under the Plenary Power only as individual cases, each name to be considered on its own merits.

(5) The foregoing paragraph (4) is not, however, to be construed as preventing the Commission from considering any given publication (article, book, or catalogue) as a whole, in which more than a single name is involved, all of which come under the same general conditions.

Opinion written by Stiles.

Opinion concurred in by 10 Commissioners: Allen, Bather, Blanchard, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Skinner, Stiles.

Opinion dissented from by 1 Commissioner: Handlirsch.

Not voting, 7 Commissioners: Apstein, Dautzenberg, Kolbe, Monticelli, Roule, Simon, Stejneger.

Commissioner Apstein makes the following statement, which is concurred in by Commissioner Kolbe:

Die Liste der Nomina Conservanda (1915) habe ich als Antrag an die Intern. Nomenclatur Kommission für den nächsten Internat. Zoologen Congress eingereicht. Dass sie nicht auf dem Prioritäts-gesetz strikt basiert, geht aus dem Antrage (Zool. Anz., v. 46, 31. viii, 15) so wie aus der Einleitung zu der Liste hervor, liegt auch schon in dem Titel "Nomina Conservanda."

Die Liste bildet also ein Novum über das der nächste Internat. Zoolog. Congress zu beschliessen haben wird. Wenn die Nomenclatur-Regeln Ausnahmen (suspensions!) nur zulassen in dem Falle der Verwirrung und bei Larven, so sind die Regeln eben viel zu eng

gefasst und muss der nächste Intern. Zoologen Congress hiergegen Abhilfe schaffen.

Was Punkt 3 in Circular letter 32 betrifft, das ich "full data respecting any name in said list" vorlegen soll, so ist das 1, nicht möglich wegen des Umfanges der Arbeit, 2, nicht nötig, da es sich bei den Namen der Liste um ganz gebräuchliche Namen handelt die wie ich schon sagte, nicht auf strikter Priorität basieren sondern von einem anderen Standpunkt aus beurteilt werden müssen.

OPINION 75

TWENTY-SEVEN GENERIC NAMES OF PROTOZOA, VERMES, PISCES,
REPTILIA AND MAMMALIA INCLUDED IN THE OFFICIAL
LIST OF ZOOLOGICAL NAMES

SUMMARY.—The following twenty-seven generic names are herewith placed in the Official List of Zoological Names, with the type species given in the body of this Opinion: PROTOZOA: *Volvox*. VERMES: *Hirudo*, *Lumbricus*. PISCES: *Ammodytes*, *Anarhichas*, *Atherina*, *Fistularia*, *Mugil*, *Myxine*, *Trachinus*, *Uranoscopus*, *Xiphias*. REPTILIA: *Draco*. MAMMALIA: *Balana*, *Bos*, *Castor*, *Delphinus*, *Erinaceus*, *Hippopotamus*, *Hystrix*, *Monodon*, *Moschus*, *Ovis*, *Phoca*, *Sus*, *Talpa*, *Ursus*.

PRESENTATION OF CASE.—Circular Letter no. 26, dated April 29, 1916, contained a list of 30 generic names proposed for inclusion in the Official List of Zoological Names. Said Circular Letter was mailed to approximately 350 zoological institutions, laboratories, and professional zoologists throughout the world, and 20 copies were sent to each Commissioner for distribution in his own country. The Circular Letter contained an invitation to all persons interested to express their approval or disapproval of these names. All of the names were published by Apstein in 1915. The names of fishes have been reported upon favorably by Commissioner Jordan, who has studied them for the Commission. The names of the mammals have been laid before the Advisory Committee on the Nomenclature of Mammals; the genotypes of the mammalian names agree with the genotypes accepted by Palmer 1904.

It would appear, therefore, that ample notification has been given the zoological profession that these names would come before the Commission for final vote.

Seventy-five zoologists have responded to Circular Letter no. 26; sixteen of these expressed approval of all of the names. Twenty-six additional responses raised no objection and made no comment on any of the names. In thirty-three instances only a portion of Circular Letter no. 26 was returned to the Secretary, but no adverse comment was made on any names in the rest of the list.

In connection with 27 of the generic names in said Circular Letter, no objection, question, or adverse comment of any kind whatsoever has been raised. In connection with three names, namely, *Doris*, *Elephas*, and *Equus*, points have been raised which indicate the advisability of again referring these three names to specialists in the groups in question for further consideration.

The point was also raised in regard to the general advisability of including in the list the original type localities of certain type species as published by the original authors.

DISCUSSION.—The Secretary feels very strongly on the point that at the present moment the Commission should show preference to cases which can be agreed upon by unanimous consent, and that so far as possible, it seems wise to postpone consideration of names that may be questioned from any point of view whatsoever, until the world conditions become more settled.

In accordance with this policy, three of the names in question, namely, *Doris*, *Elephas*, and *Equus*, have been tabled temporarily and without prejudice, and the original type localities have been omitted from the list.

After elimination of the three names and the type localities just referred to, there remain 27 generic names with genotypes, in regard to which no objection, question, or criticism of any kind has been raised.

The Secretary has verified personally all the references given below, and so far as evidence is available it appears that these 27 generic names are nomenclatorially available and valid under the Code, and that the type designations given are in accord with the Rules. The only question which it seems possible to raise in respect to these type designations is the point whether certain of them are type by subsequent designation, or type by absolute tautonymy; whichever method is followed the end result remains the same.

Upon basis of the foregoing premises, the Secretary recommends that the following 27 generic names, as definitely fixed by the type species mentioned, be adopted in the Official List of Zoological Names.

ABBREVIATIONS

- Art. = Article Internat'l Rules Zool. Nomenclature.
Op. = Opinion issued by the Internat'l Commission.
mt. = Monotypic.
tod. = Type by Original Designation.
tsd. = Type of Subsequent Designation.
tat. = Type by Absolute Tautonymy.
tt. = Type by tautonymy.

PROTOZOA

Volvox Linn., 1758a, 646, 820, tsd. *V. globator* Linn., 1758a, 820.

VERMES

Hirudo Linn., 1758a, 649, tsd. *H. medicinalis* Linn., 1758a, 649.
Lumbricus Linn., 1758a, 647, tsd. *L. terrestris* Linn., 1758a, 647.

PISCES

Ammodytes Linn., 1758a, 247, mt. *A. tobianus* Linn., 1758a, 247.
Anarhichas Linn., 1758a, 247, mt. *A. lupus* Linn., 1758a, 247.
Atherina Linn., 1758a, 315, mt. *A. hepsetus* Linn., 1758a, 315.
Fistularia Linn., 1758a, 312, mt. *F. tabacaria* Linn., 1758a, 312.
Mugil Linn., 1758a, 316, mt. *M. cephalus* Linn., 1758a, 316.
Myxine Linn., 1758a, 650, mt. *M. glutinosa* Linn., 1758a, 650.
Trachinus Linn., 1758a, 250, mt. *T. draco* Linn., 1758a, 250.
Uranoscopus Linn., 1758a, 250, mt. *U. scaber* Linn., 1758a, 250.
Xiphias Linn., 1758a, 248, mt. *X. gladius* Linn., 1758a, 248.

REPTILIA

Draco Linn., 1758a, 199, mt. *D. volans* Linn., 1758a, 199.

MAMMALS

Balæna Linn., 1758a, 75, tsd. (or tt.) *B. mysticetus* Linn., 1758a, 75.
Bos Linn., 1758a, 71, tsd. (or tt.) *B. taurus* Linn., 1758a, 71.
Castor Linn., 1758a, 58, tsd. (or tt.) *C. fiber* Linn., 1758a, 58.
Delphinus Linn., 1758a, 77, tsd. (or tt.) *D. delphis* Linn., 1758a, 77.
Erinaceus Linn., 1758a, 52, mt. *E. europæus* Linn., 1758a, 52.
Hippopotamus Linn., 1758a, 74, tsd. (or tt.) *H. amphibius* Linn., 1758a, 74.
Hystrix Linn., 1758a, 56, tsd. (or tt.) *H. cristata* Linn., 1758a, 56.
Monodon Linn., 1758a, 75, mt. *M. monoceros* Linn., 1758a, 75.
Moschus Linn., 1758a, 66, mt. *M. moschiferus* Linn., 1758a, 66.
Ovis Linn., 1758a, 70, tsd. (or tt.) *O. arics* Linn., 1758a, 70.
Phoca Linn., 1758a, 37, tsd. (or tt.) *P. vitulina* Linn., 1758a, 38.
Sus Linn., 1758a, 49, tsd. (or tt.) *S. scrofa* Linn., 1758a, 49.
Talpa Linn., 1758a, 52, tsd. (or tt.) *T. europæa* Linn., 1758a, 52.
Ursus Linn., 1758a, 47, tsd. (or tt.) *U. arctos* Linn., 1758a, 47.

Opinion written by Stiles.

Opinion concurred in by 13 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 5 Commissioners: Dautzenberg, Kolbe, Roule, Simon, Stejneger.

OPINION 76

STATUS OF PYROSOMA VS. MONOPHORA; CYCLOSALPA VS.
HOLOTHURIA; SALPA VS. DAGYSA; DOLIOLUM.
APPENDICULARIA AND FRITILLARIA

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SUMMARY.—The Secretary is authorized and instructed to insist that cases presented for opinion shall be accompanied by reasonably complete data to enable fair consideration of the points at issue. *Pyrosoma* 1804 has priority over *Monophora* 1804. *Cyclosalpa* 1827 is not invalidated by *Holothuria* 1758 (type *physalis*), which does, however, invalidate *Physalia* 1801. The present use of *Holothuria* (type *tubulosa*) in echinoderms is not in accord with the Rules, but authors are advised to use *Physalia* 1801 for the Portuguese Man of War, and *Holothuria* 1791 as genus of Sea Cucumber, pending action upon possible suspension of the Rules in these two cases. As presentation of the cases of *Salpa*, *Appendicularia*, *Doliolum*, and *Fritillaria* is incomplete and contains errors, these cases are laid upon the table indefinitely, but without prejudice; unless it can be shown that an application of the Rules in these cases will result in greater confusion than uniformity, the Rules should be enforced.

STATEMENT OF CASE.—The following names were submitted to the Commission by 12 special workers in the *Tunicata*, with request that the names be protected against change:

Doliolum, *Pyrosoma*, *Salpa*, *Cyclosalpa*, *Appendicularia*, und *Fritillaria* sind gegen Aenderung zu stützen.

Wir 12 unterzeichneten Tunicatenforscher sind übereingekommen, die 6 genannten Genusnamen pelagischer Tunicaten als gültig anzunehmen. Die Namen dieser Tunicaten werden von jedem Zoologen als vollkommen eingebürgert anerkannt werden, ihr Gebrauch hat bisher niemals zu Missverständnissen Anlass gegeben, die Genera sind Paradigmata in der zoologischen Systematik, sie spielen in der Entwicklungsgeschichte eine grosse Rolle und beanspruchen in der Tiergeographie, Planktonforschung und auch in der Hydrogeographie einen ganz hervorragenden Platz. Eine Aenderung der Namen würde eine schwere Schädigung bedeuten.

(1) *Doliolum* Quoy und Gaimard, 1834.—*Doliolum* ist von Otto 1823 (N. Acta Ac. Leop., v. 11, p. 313) für eine wohl durch *Phronima* ausgefressene *Pyrosoma* aufgestellt worden. Dann ist *Doliolum* von Quoy und Gaimard, 1834 (Voy. Astrolabe, v. 3, p. 599) gut beschrieben und jetzt in letzterem Sinne allgemein in Gebrauch. Den bisherigen Regeln nach würde *Doliolum* Synonym zu *Pyrosoma* werden, für *Doliolum* in heutigem Sinne würde ein neuer Name gebildet werden müssen. Der Familienname Doliolidae würde verschwinden.

(2) *Pyrosoma* Péron, 1804.—1804 beschrieb Péron (Ann. Mus., Paris, v. 4, p. 440) *Pyrosoma* und ebenfalls 1804 Bory (Voy. Iles Afr., v. 1, p. 107, nota) *Monophora*. Welcher der beiden Namen der ältere ist, lässt sich nicht feststellen, aber aus Quoy und Gaimard, 1824 (Voy. Uranie und Physicienne, p. 495), scheint hervorzugehen dass *Monophora* älter ist; sie schreiben, "Bory—avait donné le nom de monophore à un mollusque, qui depuis a été appelé pyrosome Péron." Es empfiehlt sich den Namen *Pyrosoma* für alle Fälle zu sichern.

(3, 4) *Salpa* Forskål, 1775, und *Cyclosalpa* Blainville, 1827.—Diese beiden Genera sind durch Ihle, 1911 (Zool. Anz., v. 38, pp. 585-589) verteidigt und auch in seine Bearbeitung in "Das Tierreich" (v. 37, 1912; Siehe auch Nota p. 27, von F. E. Schulze) übergegangen. Wir glauben uns mit diesem Hinweise begnügen zu können und erlauben uns noch an die gegenteiligen Aufsätze von Poche (Zool. Anz., v. 32, 1907, pp. 106-109; v. 39, 1912, pp. 410-413) zu erinnern.

(5) *Appendicularia* Fol, 1874.—*Appendicularia* wurde von Chamisso und Eisenhardt, 1820 (N. Acta Ac. Leop., v. 10 (11), p. 362, t. 34 F. 4), für eine arctische, nicht erkennbare Art, aufgestellt. Fol hat 1874 (Arch. Zool. exper., v. 3, notes, p. 49) den Gattungsnamen für die tropische Art *Appendicularia sicula*, die von der arctischen sicher generisch verschieden ist, übernommen und darauf hin hat sich der Name in letzterem Sinne allgemein eingebürgert. *Appendicularia* würde anderenfalls eine Species incerta enthalten und für *Appendicularia* mit der Species *sicula* würde ein neuer Gattungsnamen aufzustellen sein. Der Name der Ordnung *Appendiculariæ* würde verschwinden.

(6) *Fritillaria* Fol, 1874.—Quoy und Gaimard, 1834 (Voy. Astrolabe, v. 4, p. 306), stellen den Namen Frétiliaires auf [(*Fritillaria* Huxley 1851, Philos. Trans. (London), part 2, p. 595), *Fritillaire* C. Vogt, 1854 (Mém. Inst. Genève, v. 2, no. 2, p. 74)] identifizierten ihn aber sofort mit *Oikopleura* Mertens, 1831. Um den Namen *Fritillaria* zu retten, hat Fol, 1874 (Arch. exper., v. 3, notes, p. 49) ihn in bestimmten von früherem abweichendem Sinne gebraucht, in welchem er sich vollständig eingebürgert hat. *Fritillaria* würde Synonym zu *Oikopleura* und eine Neubenennung nötig.

C. Apstein (Berlin), A. Borgert (Bonn), G. P. Farran (Dublin), G. H. Fowler (Apsley-Guise), R. Hartmeyer (Berlin), W. A. Herdman (Liverpool), J. E. W. Ihle (Utrecht), H. Lohmann (Hamburg), W. Michaelsen (Ham-

burg), G. Neumann (Dresden), C. Ph. Sluiter (Amsterdam), F. Todaro (Rome).

DISCUSSION.—According to the premises submitted, these cases call for an exercise of the Plenary Power granted to the Commission by the Monaco Congress to suspend the Rules of Nomenclature under certain conditions. As this is the first instance of this kind that comes to vote, attention is invited to the wording of the resolutions¹ upon which said power is based.

In accordance with the provisions of §113¹ notice that the names in question had been submitted for action under the Plenary Power, by suspension of the Rules, was duly published.²

¹ See Proceedings Ninth International Congress on Zoology, Monaco (1913), 1914, pp. 890-891:

(§113) *Resolved*, That plenary power is herewith conferred upon the International Commission on Zoological Nomenclature, acting for this Congress, to suspend the Règles as applied to any given case, where in its judgment the strict application of the Règles will clearly result in greater confusion than uniformity, *provided*, however, that not less than one year's notice shall be given in any two or more of the following publications, namely, Bulletin de la Société Zoologique de France, Monitore Zoologico, Nature, Science (N. Y.), and Zoologischer Anzeiger, that the question of a possible suspension of the Règles as applied to such case is under consideration, thereby making it possible for zoologists, particularly for specialists in the group in question, to present arguments for or against the suspension under consideration; and *provided*, also, that the vote in Commission is unanimously in favor of suspension; and *provided further*, that if the vote in Commission is a two-thirds majority of the full Commission, but not a unanimous vote in favor of suspension, the Commission is hereby instructed to report the facts to the next succeeding International Congress; and

(§114) *Resolved*, That in the event that a case reaches the Congress, as hereinbefore described, with two-thirds majority of the Commission in favor of suspension, but without unanimous report, it shall be the duty of the President of the section on Nomenclature to select a special board of 3 members, consisting of one member of the Commission who voted on each side of the question and one ex-member of the Commission who has not expressed any public opinion on the case; and this special board shall review the evidence presented to it, and its report, either majority or unanimous, shall be final and without appeal, so far as the Congress is concerned; and

(§115) *Resolved*, That the foregoing authority refers in the first instance and especially to cases of the names of larval stages and the transference of names from one genus or species to another.

² See Science (N. Y.), v. 39, pp. 619-620, April 24, 1914; Bulletin de la Société Zoologique de France, v. 39, pp. 142-144, May 12, 1914; Monitore Zoologico Italiano, Anno 25, pp. 74-76; Zoologischer Anzeiger, v. 44, pp. 238-240, May 12, 1914.

In addition, these names were included in Circular Letter no. 2, Series 1915, mailed March 1915 to approximately 350 zoologists and zoological institutions of various kinds.

As a result of publication and Circular Letter no. 2, seven persons returned the list with no action taken, hence these persons come under the paragraph which reads: "In case you fail to mark any name one way or the other, I will interpret this as meaning that you have no opinion either for or against the name in question."

Twenty-eight persons took action on various names; some on all of the names, others only on names with which they were best acquainted. Twenty-seven persons raised no objection to any of the names and made no comment of any objective importance, except that, at the request of the Secretary, Commissioner Apstein, who originally submitted the list, added the species he considered should be accepted as type species for each of the six genera in question. One reply was received discussing the cases in detail and objecting to a suspension of the Rules as unnecessary.

The data collected were summarized in Circular Letter no. 11³ and transmitted to the Commission.

³ The following is a portion of Circular Letter no. 11:

As this is the first case that comes to the Commission for action under the Plenary Power, it seems wise that the papers in the case be laid before the Commission for discussion before the Secretary prepares a formal Opinion for vote.

In accordance with this thought the Secretary has the honor to invite your attention to the Seventh List of Generic Names, to Circular Letter no. 2, and to the foregoing replies to said letter.

If you will give me your views as to the general direction that the formal Opinion should take, I will collate all of the views expressed, and report to you upon them. This plan will naturally result in some delay, but the case is one of such importance, because it makes a precedent, that I cannot escape the feeling that the Secretary should receive from all of the Commissioners their preliminary views before he attempts to frame an Opinion.

In connection with your views kindly give consideration to the following points:

1. The names in question have been submitted favorably and unanimously by 12 specialists in the group involved;
2. All of the provisions prescribed by the Congress in reference to the suspension of the Rules have been complied with;
3. No objection to any of the said names has been raised—
 - a. By any specialist in the group in question,
 - b. By any specialist [except Bartsch] in any other group,
 - c. By any general zoologist.
4. Is it your "Opinion" that a suspension of the Rules in these six cases is based upon a question of convenience, or that the application of the Rules in these cases would "clearly result in greater confusion than uniformity"?

The various points raised in reply ⁴ to Circular Letter no. 11 have been held in mind by the Secretary in framing this Opinion.

*Duty of the Commission under the Plenary Power Resolutions.*²—It will be noticed that in reply to Circular Letter no. 11, the point is raised that the Commission should take very seriously the responsibility the International Congress has placed upon us and that the expression “where in its judgment the strict application of the Rules will clearly result in greater confusion than uniformity” is advanced as the standard upon which we must base our opinion; further, also, that this extraordinary Plenary Power must be exercised with the utmost care and discretion.

*Incompleteness of the statement of case.*⁵—In respect to the Statement of Case, two points of view may be considered:

(1) It is clear that no Court at Law would consider that the evidence submitted by the Appellants is presented in a manner that permits a fair judicial consideration of these cases. The Commission is practically a Court that should decide questions on basis of the evidence submitted, but it has a right to insist that this evidence shall be reasonably complete in order to enable the Commission to consider the cases from every essential point of view. From this standpoint, the Commission would be justified in declining to con-

5. If only a matter of convenience is involved, is this convenience of sufficiently far reaching importance to justify a suspension of the Rules?

6. If it is your “Opinion” that “greater confusion than uniformity” would result, does this apply to all of the names or only to certain of them?

7. Have the signers of the Seventh List submitted evidence that the application of the Rules in these cases would clearly result in greater confusion than uniformity, and is this evidence sufficient to justify favorable action on the part of the Commission?

8. Is the Secretary correct in accepting the genotypes suggested by Commissioner Apstein, or should the Secretary, as a precautional measure, request that these genotypes be confirmed by the other signers of the Seventh List?

9. Would the suspension of the Rules in these six cases involve an action sufficiently conservative to show that the Commission is using the Plenary Power with caution, or would it be sufficiently radical to indicate that the Commission invites a general suspension of the Rules in cases where convenience only is involved?

10. Do you consider all of the six names equal in importance from the standpoint of the suspension of the Rules, or should a distinction be made among them?

11. Is evidence submitted that any of the names come under paragraph 3 (115). If so, for which names?

⁴The replies were copied and transmitted to the Commissioners, but it is not necessary to print them with the Opinion.

⁵See p. 38, Statement of Case.

sider these cases because of the incomplete preparation of the evidence.

(2) It has, however, been the custom of the Commission to aid former Appellants by adding data not submitted by them, and in view of the fact that these names are the first to come up for consideration under the Plenary Power Resolutions, it would appear questionable whether the Commission should suddenly become more strict as to completeness of presentation. Accordingly, the Secretary has felt it better policy to add data that will enable the Commission to show every possible consideration to the Appellants.

Nevertheless, in view of the great amount of work involved, the Secretary recommends that the Commission take this occasion to establish for the future the policy involved in the following resolutions:

Resolved, That the Secretary is hereby authorized and instructed to insist that cases presented to the Commission for consideration shall be accompanied by reasonably complete data to enable a fair consideration of the nomenclatorial points at issue, and

Resolved, That in order to give opportunity to submit complete evidence, the Secretary is hereby authorized and instructed to return to Appellants cases not stated with a reasonable degree of completeness.

RESULT OF VOTE.—Resolution concurred in by 12 Commissioners: Allen, Bather, Blanchard, Handlirsch, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Not voting, 6 Commissioners: Apstein, Dautzenberg, Horváth, Kolbe, Roule, Simon.

Nomenclatorial views of writers on Tunicata.—During a study of the cases under consideration, the Secretary has had another opportunity to gain an insight into some of the nomenclatorial customs of writers on tunicates, and thus to see the origin of at least some of the difficulties presented.

The chief nomenclatorial difficulties in this group appear to be referable to certain fundamental factors:

(1) In general, authors on the tunicates appear to take no account of the principle of type species for genera. As a consequence, confusion results. The impression gained from the literature is that the authors have been working on the basis only of a morphological norm and without reference to a nomenclatorial type. In the judgment of the Secretary, the present nomenclatorial confusion in this group is likely to continue until some author gives himself the trouble to examine systematically the entire literature of the group and to determine, according to Article 30 of the Rules, the correct nomen-

clatorial type species for every generic name. Even the monographic works of Seeliger and Hartmeyer (Bronn's Thierreich) and of Ihle (1912a) and Neumann (1913a) (in Das Tierreich) do not appear to have been based upon the principle of type species. If any work exists in which genotypes have been determined for the entire tunicate group, the Appellants have not mentioned this in their evidence.

(2) Certain important authors in this group do not appear to have based their nomenclatorial work upon a careful study of the Rules of Nomenclature that existed at the time they wrote. Thus, early authors appear to have been unfamiliar with the Linnæan Rules, and more recent authors (since 1842) appear to have been unfamiliar with, or to have misinterpreted, or to have ignored, the rules as proposed or adopted by various societies from 1842 to 1910. Under these circumstances it is not surprising that confusion has resulted.

(3) A striking feature of tunicate literature is that authors consider that if the description upon which a given name is based seems obscure to them, they are at liberty to apply said name to any group they may desire, regardless of its original application,⁶ or to rename the original group.⁷

⁶ For examples see the following quotations:

Quoy and Gaimard (1834a, 599) in proposing a new genus *Doliolum*, say: "Il ne faut pas confondre ce genre avec celui ainsi nommé par M. Otto, dans les Nova acta curios. natur., t. 42, fig. 7, qui n'est qu'un Biphere tronqué aux deux extrémités par une espèce de crustacé pélagien nommé Phronyme, qui s'y loge et fait développer ses petits. Nous avons trouvé deux fois et rapporté ce singulier animal dans son logement."

Fol (1872a, 460) in proposing a family "Appendiculaires" and a new genus *Fritillaria* says: "Les descriptions que donnent Chamisso de son Appendiculaire, et Quoy et Gaimard de leur *Fritillaria* sont si vagues, que je me crois en droit de faire de ces noms l'usage que je voudrai. Je conserve comme nom de famille, le nom donné par Chamisso, et applique le terme de *Fritillaria* au second de mes genres que ce nom désigne assez bien."

Under *Fritillaria* he gives *F. furcata* (Vogt), and four new species: *F. megachile*, *F. aplostoma*, *F. formica*, and *F. urticans*.

Fol (1874a, xlix) in proposing a new genus *Appendicularia*, says: "Les noms *Appendicularia* (Cham.) et *Fritillaria* (Q. & G.) se rapportent clairement à des animaux de la famille qui nous occupe, mais il est impossible d'appliquer les descriptions dont ces noms ont été accompagnés à l'une plutôt qu'à l'autre des formes qui la composent. Je persiste donc à me considérer comme libre de les donner au genre que bon me semble, tout en faisant suivre le nom de cette réserve: *Diagnosis emendata*. Le nom donné par Chamisso n'ayant pas encore trouvé son emploi, je l'appliquerai au genre actuel."

Of the species of *Fritillaria* he now cites: *F. aplostoma* (which he changes to *haplostoma*), *F. megachile*, and *F. furcata*.

⁷ Mertens (1831a, 205-206) in proposing the new genus and species *Oikopleura chamissonis* says: "Das in Anfrage stehende Thier ist freilich schon

(4) At least one specialist in tunicates, who is so rigid in regard to priority that he rejects one name for another merely on basis of page precedence,⁸ does not consider it necessary to confine the genotype to the original species published under a genus.⁹

In the cases that are presented by the 12 specialists in tunicates, the Commission is, accordingly, requested to validate certain names in a group which does not as yet appear to have been subjected to any serious or systematic nomenclatorial study on basis of the International Rules. In the judgment of the Secretary, this fact alone should make the Commission exceedingly cautious, lest an Opinion be rendered which may possibly result in distinct and unnecessary confusion that might be avoided if some tunicate specialist will subject the group to the very necessary nomenclatorial study it deserves before important final steps are taken.

Classes of cases presented.—A study of the cases under consideration indicates that they naturally fall into certain categories, as follows:

I. *Pyrosoma* 1804 vs. *Monophora* 1804: This case involves simply a determination of the facts as regards the dates. If exact dates cannot be determined more closely than 1804, the case is amply provided for by Article 28.¹⁰

II. *Cyclosalpa* 1827 vs. *Holothuria* 1758 of Lûche, 1912: This case involves a determination of the genotypes according to Article 30.

von Chamisso, vor mir, an derselben Stelle, wo ich es beobachtete, gesehen und bereits vor 10 Jahren in der 1. Abtheilung des 10. Bandes der Verhandlungen der Kaiserlichen Leopoldinisch-Carolinischen Akademie der Naturforscher als eine neue Gattung unter dem Namen *Appendicularia* aufgeführt worden. Allein die Beschreibung und Darstellung ist so unvollkommen, das ich mein Thier füglich als nicht bekannt annehmen kann und muss.... (p. 218). Ich habe diese Art mit dem Namen meines....Freundes belegt....weil er der erste war der die Aufmerksamkeit der Naturforscher auf dieses Thier gelenkt hat."

⁸ Thus Ihle (1911a, 588) says: "K. Heider (1805, S. 308 Anm.) hat schon darauf hingewiesen, dass *S. mucronata* in *S. democratica* umzuändern ist, denn Forskål beschreibt letztgenannte Art auf S. 113 seiner Arbeit und *S. mucronata* erst auf der folgenden Seite.... Wir kommen also zum Ergebnis, das....*S. mucronata* in *S. democratica* Forskål....zu ändern ist."

⁹ But Ihle (1911a, 585-586) also says: "Nun hat Linné [1767a] in der 12. Ausgabe seines Systema Nature der Gattung *Holothuria* [1758] noch mehrere Arten zugefügt, welche teilweise echte Holothurien sind, und der Typus der Gattung *Holothuria* ist unter den in dieser Gattung verbleibenden Arten zu suchen."

¹⁰ "If the names are of the same date, that selected by the first reviser shall stand."

III. *Dagysa* 1773 vs. *Salpa* 1775: This case involves (a) a determination of the genotypes (Art. 30) and an application of the Law of Priority (Arts. 26-27).

IV. *Appendicularia*, *Doliolum* and *Fritillaria*: These cases involve the principle (footnote 6) cited above, that an author who considers the original description of a genus insufficient from his point of view is at liberty to use the name in any way he may desire, regardless of rules or consequences.

Bibliography.—In discussing these cases, the Secretary refers to the articles mentioned in footnote.¹¹

¹¹ BIBLIOGRAPHY.—The Secretary desires to acknowledge, with the greatest appreciation, the very valuable aid extended to him by Dr. Paul Bartsch, Curator of the Division of Marine Invertebrates, United States National Museum, in obtaining literature and in a study of these cases.

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BARTSCH, 1915a, The Status of the Tunicate Genera *Appendicularia* and *Fritillaria* <Proc. Biol. Soc. Wash., v. 28, 145-146. Aug. 23.

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BORY, 1804a, Voy. Iles d'Afr., v. 1. [Aug. 23, 1804.]

BROWNE, 1756a, Hist. Jamaica.

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FOL, 1872a, Études s. l. Appendiculaires <Mém. Soc. Phy. et d'Hist. nat. Genève, v. 21 (2), 445-499, pls. 1-11.

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FORSKÅL, 1775a, Descriptiones Animalium.

CASE OF *PYROSOMA*¹² PÉRON, 1804, VS. *MONOPHORA*¹³
BORY, 1804

According to the premises presented, (1) *Pyrosoma* and *Monophora* are synonyms and (2) it cannot be determined which has

- GILL, 1907a, Holothurian Names <Science, N. Y., v. 26, 185-186. Aug. 9.
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 IHLE, 1911a, U. d. Nomenk. d. Salpen <Zool. Anz., v. 38 (25-26), 19 Dec., 586-589.
 ——— 1912a, Salpæ I, *Desmomyaria* <Das Tierreich, 32. Lief. Mai.
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 LAMARCK, 1801a, Syst. anim. sans vert.
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 ——— 1816a, Idem, v. 2.
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 LAMOUROUX, BORY and DESLONGSCHAMPS, 1824a, Hist. nat. zooph. <Encycl. méth., v. 2.
 LINNÆUS, 1758a, Syst. nat., ed. 10, 1-823.
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 MERTENS, 1831a, Besch. d. *Oikopleura* <Mem. Acad. Imp. Sci. St. Petersburg, 6 sér., v. 1, 205-220, pls. 1-2.
 MODEER, 1789b, Slågtet Hafsblåsa, *Physophora* <K. Vet. Akad. N. Handl., v. 10, 277-294.
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 ——— 1778b, Misc. zool., 1-224, pls. 1-14.
 PARKER & HASWELL, 1910a, Text Book of Zoology, v. 2.
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 POCHE, 1907d, U. d. r. Gebr. d. Gattungsnamen *Holothuria* u. *Actinia* [etc.] <Zool. Anz., v. 32 (3-4), 20 Aug., 106-109.
 ——— 1912a, Z. Nom. d. *Bohadschiidae* u. d. *Dagysidae* <Ibidem, v. 39 (11-12), Apr. 23, 410-413.
 QUOY & GAIMARD, 1833a, Voyage de l'Astrolabe, v. 4.
 ——— 1834a, Idem, v. 3.
 RUMPHIUS, 1741a, D'Amboinsche Rariteitskamer.
 SCHULZE, 1912a, footnote, p. 27, in Ihle, 1912a.
 SCOPOLI, 1777a, Introductio ad Hist. nat.
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 ——— 1914a, Ann. Mag. Nat. Hist.
¹²*Pyrosoma* Péron, 1804a, 437, 440, pl. 72, monotype *P. atlanticum*, p. 440, pl. 72. [Aug. 18 [or earlier], 1804.]
¹³*Monophora* Bory, 1804a, 107, monotype *M. noctiluca*, pp. 107-108, pl. 6, fig. 2. [Aug. 23, 1804.]

priority in publication, but (3) *Monophora* appears to be the earlier. On basis of these premises special protection is asked for *Pyrosoma* in order that it may not be suppressed in favor of *Monophora*.

The first premise is zoological in nature, and rests upon the technical judgment of the petitioning specialists. For the purpose of this Opinion it is fundamental, and is accepted as established.

The second and third premises involve questions of fact which can be studied without reference to technical interpretation in taxonomy.

According to the evidence before the Secretary (personal examination of the necessary literature) the two publications in question (Péron and Bory) are of the same year (1804), but that of Péron for *Pyrosoma* also bears the date of An XII of the French Republic, and that of Bory for *Monophora* also bears the date of An XIII of the French Republic.

An XII ended September 22, 1804, and An XIII began September 23, 1804. As it is a general principle that the date borne by a publication is to be assumed to be correct unless proved to be incorrect, the evidence of An XII and An XIII would at first appear to settle the question at issue. The work by Bory bears, however, the printed statement on its flyleaf that in accordance with law, two copies of the book were deposited in the Bibliothèque nationale, Paris, "ce 5 Fructidor An XII de la République Française" (namely, August 23, 1804). Furthermore, according to Sherborn (1914a, p. 366) volume 4 of the Ann. Mus. nat. (containing *Pyrosoma*) was published in August, 1804. Furthermore, also, Commissioner Blanchard in reply to a request of the Secretary to establish in Paris the exact date of issue of Péron's publication, has, under date of March 28, 1916, replied as follows:

Le fascicule 24 des Annales du Muséum d'histoire naturelle, qui contient le mémoire de Péron, se trouve annoncé et analysé dans le Journal général de la librairie [not accessible to the Secretary] de thermidor an XII. Thermidor an XII finissant le 18 août 1804, il est donc hors de doute que le mémoire de Péron est paru quelque temps, peut-être même plusieurs semaines avant cette date.

Accordingly the actual date of publication for *Monophora* is August 23, 1804, and for *Pyrosoma* it is earlier than August 18, 1804.

An examination of the facts of the case in question shows, therefore, that the 2nd and 3rd premises, upon which the Appellants ask special protection for *Pyrosoma* are erroneous, and that if the International Rules are rigidly applied, *Pyrosoma* is amply protected from danger of being suppressed in favor of *Monophora*.

In view of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

The data presented by the Appellants do not show that an application of the Rules in this case will produce greater confusion than uniformity, hence *Pyrosoma* vs. *Monophora* is not a case in which the Commission would be justified in suspending the Rules.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Monticelli, Skinner, Stejneger, Stiles.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE¹¹ OF *CYCLOSALPA* 1827, *THALIA* 1791, AND
HOLOTHURIA 1758

Systematic Conceptions of Holothuria.—The generic name *Holothuria*, as used by various authors from 1758 to 1916, has included species of four different subkingdoms, namely, Group A, *Coclen-*

¹¹ Names dating prior to 1758, hence not validated in original publication:

Holothuria Rumphius, 1741a, 49-50, monotype [*H. physalis* 1758].

Physalis Osb. [Not accessible to Secretary.]

Thalia Browne, 1756a, 386, contains 3 species [1 = *Hol. thalia*, 2 = *H. caudata*, 3 = *H. denudata*]; 1789a, 384, 386 [reprint, not validated here].

Names dating 1758 or later:

Holothuria Linn., 1758a, 657, contains *physalis*, *thalia*, *caudata*, *denudata*.

Type *physalis*, designated by Gill, 1907a, 185-186, and Schulze, 1912a, 27.

[See also Blumenbach, 1791a, 428 and 1799a, 421.]

Type *thalia*, designated by Poche, 1912a, 410-411.

Type *tubulosa*, designated by Apstein, 1915a, 132.

Holothurium Pallas, 1774b, 26 (for *Holothuria*) describes *zonarium*.

Phyllidoce Modeer, 1790b, 191-207, contains *zelella* 1758 (syn. *Phyllidoce labris caeruleis* Browne, 1789a, 387 [not validated by Edwards in Browne, 1789a, 387 or on pl. 48, fig. 1]), *denudata* 1758, and *porpita* 1758.

Physosphora Forskål, 1775a, 112, 119, contains *hydrostatica*, *rosucca*, and *filiformis*.—Apstein, 1915a, 128 cites *hydrostatica* as type.

Arctusa Edwards in Browne, 1789a, 386 for *Arcthusa* Browne, 1756a. [Not validated here].

Thalia Bruguière, 1791a, pls. 88-89, contains 1. *Hol. thalia* [type by absolute tautonymy], 2. *H. caudata*, 3. . . . ?. . . . [could not be traced by Secretary], and 4. *H. physalis*.

Thalis Cuvier, 1798a, 398, for *Thalia* 1791, hence type *H. thalia*.

Cyclosalpa Blainville, 1827, 108-109, contains *Salpa pinnata* Gmel., *S. affinis*, and [as sp. incert.] "les espèces de thalides de Browne."—Apstein, 1915a, 186, cites *pinnata* as type.

Physalia Lamarck, 1801a, 355-356, mt. *P. pelagica* (= *H. physalis* 1758).—

Apstein, 1915a, 128, cites *arcthusa* Browne, 1756, as type.

Physalis Lamarck, 1816a, v. 2, 478-481 (uses both *Physalia* and *Physalis*).

terata, Group B, *Tunicata*, Group C, *Echinodermata*, and Group D, *Vermes*, as follows:

Linnæus (1758a, 657) validated *Holothuria* nomenclatorially as generic name under which he united two earlier genera to which he did not grant the rank of subdivisions, namely:

Group A, The Portuguese Man of War [*Holothuria*¹⁵ 1741; *Arethusa*¹⁶ 1756; and *Physalis*¹⁴].

1. *H. physalis*, for which he cited the earlier names: *Holothuria*¹⁵ Rumphius; *Arethusa*¹⁴ Browne; and *Physalis pelagica*¹⁴.

Group B, Three Jamaican salps [genus *Thalia* Browne,¹⁶ 1756].

2. *H. thalia*, based on *Thalia* 1. of Browne, 1756a, p. 384, pl. 43, fig. 3.
3. *H. caudata*, based on *Thalia* 2, of Browne, 1756a, p. 384, pl. 43, fig. 4.
4. *H. denudata*, based on *Thalia* 3, Browne, 1756a, p. 384.

Essentially, therefore, *Holothuria* 1758 equals *Holothuria* 1741 (syns. *Arethusa* 1756 and *Physalis*) + *Thalia* 1756.

That the first species (*H. physalis*) should have been taken as genotype by later authors is clear from the following facts:

- (1) *Holothuria* 1758 is based directly upon *Holothuria* 1741;
- (2) Linnæus' rule, in case of a division of a genus, reads:

Si genus receptum, secundum jus naturæ et artis, in plura dirimi debet, tum nomen ante commune manebit vulgatissimæ et officinali plantæ.

(3) As the Portuguese Man of War was observed, named, and reported by various authors, it was clearly, from Linnæus' viewpoint, more common than any one of the three species of the *Thalia* group, which were based upon the publication by only one author.

¹⁵ Rumphius (1741a, 49-50) described and named *Holothuria*, without binomial, stating that it belonged to the so-called *Urticaria marina*. Rumphius' animal is apparently *Physalia* of modern authors.

¹⁶ Browne (1756a, 386) is not accessible to the Secretary; in a later edition, Browne (1789a, 386) uses *Arctusa* for "The Portuguese Man of War" (*Physalia* of modern authors) and (1789a, 384) he uses *Thalia* as follows:

Thalia 1. Oblonga, crista, perpendiculari compressa quadrata, lineis lateralibus integris. Tab. 43 f. 3.

Thalia 2. Oblonga caudata, crista depressa rotundata, lineis lateralibus interruptis. Tab. 43. f. 4.

Thalia 3. Oblonga, lineis interruptis, cauda et crista destituta.

As he uses the names "3, *Holothuria thalia*. 4, *Holothuria caudata*" in the explanation on plate 43, it seems clear that *Thalia* 1756 is not validated in 1789.

From descriptions and figures, all three of Browne's species appear to be salps in the modern sense, but without re-examining the Jamaican salps it would be difficult or impossible to determine what particular genera and species are referred to.

Under ordinary circumstances the nomenclatorial decision might well be based upon this original publication alone, without additional historical review, but on account of the complications that have arisen, it seems wise to follow the literature further.

Linnaeus (1767a, 1089-1091) included in *Holothuria* the four (1758a) species of the two original groups (A, *Holothuria* 1741, and B, *Thalia* 1756) and added five other species that are recognized by authors as belonging to two other categories, namely,

Group C, Sea Cucumbers [cf. *Fistularia* Forskål, 1775, preoccupied by *Fistularia* 1758a, a fish] [cf. also *Bohadschia* Jæger, 1833].

1. *H. frondosa* Gunnerus, 1767, 115, [cf. *Cucumaria*;]
2. *H. phantapus* Linn., 1767a, 1089, [cf. *Psolus*;]
3. *H. tremula* Gunnerus, 1767, 119, [cf. *Holothuria* authors;]
4. *H. pentactes* Linn., 1767a, 1091, [cf. *Cucumaria*.]

Group D, Vermes, *Gephyrea*. [Cf. *Priapulus* Lamarck, 1816b, 76-77, mt. *caudatus* = *priapus* 1767 renamed.]

5. *H. priapus* Linn., 1767a, 1091.

Here is found the origin of the present day confusion. Many authors have taken the 12th edition of Linnaeus (1767a) as the starting point of their nomenclature, and, in fact, the British Association (1846) Code of Nomenclature adopts this date as basic. Other authors have taken the 10th edition of Linnaeus (1758a) as starting point, as provided for in the A. A. A. S., the A. O. U., the French, the German, and the International Rules. Accordingly, there was a period during which different authors might follow rules in good faith and still arrive at different nomenclatorial results. Hence, to understand the case, we must follow three (A-C) of the groups, A-D, still further.

This case may, in fact, be taken as a typical example of a number of complicated nomenclatorial problems that confront us, and it would be well to hold the cause in mind in reaching a conclusion.

GROUP A, THE PORTUGUESE MAN OF WAR. HOLOTHURIA 1741 = ARETHUSA 1756 = PHYSALIS = ARETUSA 1789 = PHYSALIA 1801.

Holothuria physalis has been taken as basis of *Holothuria* by the following authors:

Blumenbach (1791a, 428 and 1799a, 421) adopts *Holothuria* in its original (1741) sense, mentioning only one species, *H. physalis*. For his use of *Thalia* see below, p. 52.

Gill (1907a, Aug. 9, 185-186) definitely designates *H. physalis* as genotype of *Holothuria* 1758, as shown by the Commission (1910, p. 34) in Opinion No. 16.

Schulze (1912a, p. 27) considers that *Holothuria* should be retained for *H. physalis*; for his disposition of *Thalia*, see below.

Modeer (1789b, 285) had transferred *H. physalis* to *Physosphora* Forskål, 1775. This genus originally contained only *P. hydrostatica*, *rosacea*, and *filiformis*.

Lamarck (1801a, 355-356) adopted *Physalia* as a new genus, with *pelagica* as monotype. He gives as synonym of *pelagica*, *Holothuria physalis* Linn., *Thalia* 1791, and *Arethusa* Browne, p. 386.

Burmeister (1837a, 460) adopts *Physalia*, mentioning *Ph. caravella* (with syns. *Ph. arethusa* Eisenh., *Ph. pelagica* Lam., *Cystisoma atlantica* Lesson).

Apstein (1915a, 128) (quoting Vanhöffen, 1903) reduces Browne's (1756) generic name (*Arethusa*) to specific rank, and cites it as type species (of *Physalia*) with the date 1756.

Physalia has been changed to *Physalis* by some authors. Either *Physalia* or *Physalis* has been used by nearly all authors since 1801 as generic name for the Portuguese Man of War, and it may be said to be at present practically in universal use, except for Gill (1907a) and Schulze (1912a).

GROUP B. THALIA BROWNE, 1756A, THE JAMAICAN SALPS

So far as the Secretary has found, the first authors to make *Thalia* available under the Rules, were Blumenbach (1791a) and Bruguière (1791a), but he is unable to state which publication has priority.

Pallas (1774b, 26) changed *Holothuria* to *Holothurium*, mentioning *H. zonaria*. Ihle (1912a, 27) gives *Holothurium* 1774 as synonym of *Salpa*.

Modeer (1790b, 201) had already transferred *Hol. denudata* (= *Thalia* 3 of Browne, 1756) to *Phyllidoce*. This genus of Modeer (1790b, 191-207) was based upon *velella*, [*Hol.*] *denudata* 1758, and *porpita*. It was clearly based primarily upon *Phyllidoce labris caeruleis* of Browne, 1789a, 387 (the only species of *Phyllidoce* 1789) which Modeer gives as synonym of *velella*.

Bruguière (1791a) uses *Thalia* on pls. 88-89, without specific names, for the following:

- pl. 88 fig. 1 = Browne's pl. 43 fig. 3 (reversed) = *Hol. thalia* 1758;
- pl. 88 fig. 2 = Browne's pl. 43 fig. 4 (reversed) = *Hol. caudata* 1758;
- pl. 88 fig. 3 = [not traced by Secretary];
- pl. 89 fig. 1 = The Portuguese Man of War = *Physalia*.

From the foregoing it appears that taxonomically *Thalia* 1791 is practically coextensive with *Holothuria* 1758, but nomenclatorially *Hol. thalia* becomes the genotype of *Thalia* by absolute tautonymy.¹⁷

Cuvier (1798a, 389) emended *Thalia* to *Thalis* as follows:

VII. LES THALIDES. (*Thalis*) (*Thalia* Brug.) (*Holothuria* Lin.) [generic diagnosis] "Une espèce (*thalis physalus*) (*holothuria physalus* Lin.) a de longs et nombreux tentacules; les autres (*holothuria thalia*, etc. Lin.) en sont dépourvues.

Thalis takes *Hol. thalia* as type, since *Thalis* is only an emendation of *Thalia*.

Blumenbach (1799a, 472) mentions *Thalia*, quoting only one species, *lingulata* (Atlantic Ocean) and citing Forster.

Lamarek (1801a, 356) accepts *Thalis*, mentioning only one species, *trilineata* (with references to *Hol. thalia* 1758 and *Thalia* Browne, 1756a, plate 43, figure 3, and referring to Bruguière, 1791a, plate 88, figure 1).

Blainville (1827, 108-109) separated from *Salpa* the group *Cyclosalpa*, with diagnosis; he cites *S. pinnata* Linn. Gmel., *S. affinis* Chamisso, and adds:

Il faut, sans doute, rapporter à cette section les espèces de thalides de Browne, puisqu'elles se réunissent aussi en cercle; peut-être même ne sont-ce que des biphores pinnés, comme le pense M. de Chamisso; mais ce qu'il est impossible d'assurer, tant les descriptions et les figures sont incomplètes.

According to the Code, the type of *Cyclosalpa* must be either *pinnata* or *affinis*. Browne's species are excluded (Art. 30eβ) since Blainville considered them as species inquirendae. Apstein (1915a, 186) has designated *C. pinnata* as type species.

¹⁷ Two possible interpretations come into consideration in connection with *Thalia* 1791 as follows:

First: Some authors might be inclined to consider *Thalia* a new name for *Holothuria* 1758. In this event the question would arise as to whether *Thalia* should take *Hol. physalis* 1758 as genotype, because of the citation by Linnæus; or whether *H. thalia* became the type of *Thalia* by absolute tautonymy, and thus by the principle of renaming became also type designation for *Holothuria* 1758.

Second: Some authors might maintain that Bruguière in 1791 divided the genus *Holothuria* as it existed at the date of his writing, retaining *Holothuria* for the Sea Cucumbers, and separating from *Holothuria* the genus *Thalia*. In this latter alternative *H. thalia* undoubtedly becomes type of *Thalia* by absolute tautonymy.

The Secretary accepts the second interpretation on the ground that it seems to him to correspond more clearly with the facts, and it also seems to simplify the complications.

Poche (1907a, Aug. 20, 106) in discussing *Holothuria* 1758, and applying the principle of elimination, cites the transfer of *physalis* to *Physosiphora* in 1789, and of *denudata* to *Salpa* by Modeer¹⁸ 1790, 201 or 202, but does not mention *Thalia* 1791 and *Thalis* 1798 and 1801, and he states that either *thalia* or *caudata* should be taken as the type of *Holothuria* 1758.

Ihle (1911a, 585-586), in a discussion of the nomenclature of *Holothuria*, states that Traustedt (1885, 353) and Seeliger (1893, 23) consider *H. thalia* [type of *Thalia* 1791] and *H. caudata* as synonyms of *Cyclosalpa pinnata*, but that he (Ihle) considers that the identification of *H. thalia* with *C. pinnata* is only a conjecture ("ein Vermuten"), and that it is clear that Browne had observed "Salpen" although that the descriptions and figures of Browne are too meagre (dürftig) to permit of an identification of the two species. Ihle claims that even if the identity of *C. pinnata* with *H. thalia* be admitted, *Holothuria* cannot replace *Cyclosalpa*, since Linnæus (1767a) had added further species to *Holothuria* and the type of *Holothuria* should be sought among those still remaining in the genus.

Poche (1912a, Apr. 23, 410-411) in replying to Ihle (1911a, 585-586) points out the latter's error [under the Rules] in connection with Linnæus, 1767a, and designates *H. thalia* as type of *Holothuria*, 1758. This designation is, however, antedated by Gill's (1907) designation of *physalis*.

Schulze (1912a, 27) advises the use of *Salpa* 1775 for the species of *Thalia* 1756.

Ihle (1912a, May, p. 15) gives *Thalia* Browne, 1756 (see also 1789), and *Holothuria* Linn., 1758 (part), as doubtful synonyms of *Cyclosalpa*, and (p. 17) he cites *H. thalia* + *H. caudata* + *H. denudata* Linn., 1758, as doubtful synonyms of *Cyclosalpa pinnata* (1775).

GROUP C. SEA CUCUMBERS. HOLOTHURIA AUTHORS [NOT LINN., 1758]

It was seen above that Linnæus (1767a) added four species of Sea Cucumbers to *Holothuria*; namely, *frondosa*, *phantapus*, *tremula*, and *pentactes*.

Authors who took the 12th edition of Linnæus (1767a) as starting point for their nomenclature should have confined the genotype to one of these species in case they desired to restrict *Holothuria* to the Sea Cucumbers.

¹⁸ Modeer, 1790b, 201, placed *denudata* in *Phyllidoce*.—CWS. Compare, also, Sherborn, 1902a, 294

Gmelin (1790a, 3138-3143) added 16 species¹⁹ to *Holothuria*, changing *tremula* to *tubulosa* and *pentactes* to *pentacta*.

Bruguière (1791a, pls. 85-87) after eliminating the original species (1758) of *Holothuria* to *Thalia*, restricts *Holothuria* to the Sea Cucumbers.²⁰

Cuvier (1798a, 644-645) mentions only *tubulosa* Linn., [Gmel., 1790a, see *tremula* Linn.] and *pentacta* [see *pentactes*] under *Holothuria*.

Lamarck (1801a, 351) mentions only "*H. tubulosa* Linn.," and, since 1801, *Holothuria* has been almost universally confined to the Sea Cucumbers of this group.²¹

Apstein (1915a, 132) cites *tubulosa* Gmel. [cf. *tremula*] as type, and it will be noticed that of the authors quoted in footnote 21 *tremula* Linn., 1767a [cf. *tubulosa* Gmel. 1790a] is mentioned as a *Holothuria* auct. [not 1758] by: Linnæus (1767a), Cuvier (1830), and Gill (1907a), while *tubulosa* Gmelin, 1790a [cf. *tremula* Linn., 1767a] is mentioned as a *Holothuria* by Gmelin (1791a), Cuvier (1798a), Lamarck (1801a), Burmeister (1837a), Claus (1885a), Leunis (1886a) and Apstein (1915a).

This list might be extended much further, but it is sufficiently long to show that one of the Linnæus' (1767a) holothurian species, namely, *tremula*, which was renamed *tubulosa* by Gmelin (1790a),

¹⁹ The additional species are: 10. *elegans*, 11. *squamata*, 12. *penicillus*, 13. *fusus*, 14. *inhærens*, 15. *lævis*, 16. *minuta*, 17. *forcipata*, 18. *zonaria*, 19. *vittata*, 20. *maxima*, 21. *impatiens*, 22. *nuda*, 23. *spirans*, 24. *papillosa*, 25. *spallanzani*.

²⁰ The text to these plates has not been found by the Secretary, but a later edition (1824, v. 2) of the *Encyl. méth.*, refers to plates 85-87 and uses for the figures the following names: *frondosa*, *phantapus*, *pentacta*, *doliolum*, *fusus*, *inhærens*, *glutinosa*, *vittata*, *squamata*, and *penicillus*.

²¹ Duméril (1806a, 304-305) continues *Holothuria* as an echinoderm, but gives no species.

Lamarck (1816b, 71-74) quotes under *Holothuria*: *frondosa*, *phantapus*, *pentacta*, *doliolum*, *fusus*, *inhærens*, *glutinosa*, *vittata*, *squamata* and *penicillus*.

Cuvier (1830a, 238-240) quotes: *phantapus* L., *squamata* Mueller, *regalis* Fab., *tremula* [cf. *tubulosa*], *frondosa*, and in footnote, *elegans*, etc.

Burmeister (1837a, 471) quotes *tubulosa* [cf. *tremula*], *elegans*, *impatiens*, *ananas*, *monacaria*, u. a., but recognizes *Bohadschia*, *Mülleria*, and *Trepang* as distinct genera.

Claus (1885a, 249) quotes *tubulosa* [cf. *tremula*], and *edulis*.

Leunis (1886a, 888-839) quotes *monacaria*, *marmorata*, *scabra*, *vagabunda*, *impatiens*, *atra*, *edulis*, *tubulosa* [cf. *tremula*], and *polii*.

Gill (1907a, 185) quotes *frondosa* and *pentactes* as *Cucumaria*, *phantapus* as *Psolus*, and *tremula* [cf. *tubulosa*] as *Holothuria* of modern authors.

has continued in *Holothuria* even after this name was definitely transferred to the Echinoderms.

From the standpoint of the British Association Code of 1846, which took Linnæus (1767a) 12th edition as starting point of nomenclature, the present general use of *Holothuria* for the Sea Cucumbers, instead of for the Portuguese Man of War, is therefore justified, although, as shown above, the name *Holothuria* should, on basis of the American, French, German, and International Rules, which take the 10th (1758a) instead of the 12th (1767a) edition of Linnæus as starting point, be used for the Portuguese Man of War.

Doubtless the papers by Gill (1907a) and Poche (1907a and 1912a) in discussing this case have caused more dissatisfaction with the Law of Priority than has any other single case of nomenclature that has ever arisen. And this case of *Holothuria* was one of those which the Commission had particularly in mind when we worded, in the way we did, the Resolutions presented to the International Congress and adopted by the Congress, conferring upon the Commission Plenary Power [§113] "to suspend the Rules as applied to any given case, where in its judgment the strict application of the Rules will result in greater confusion than uniformity" and [§115] "the foregoing authority refers in the first instance and especially to . . . the transference of names from one genus to another."

Holothuria is, in fact, the best example known to the Secretary in the entire field of nomenclature that comes into consideration in connection with the Plenary Power cited. If suspension of the Rules is not justified in this case, it is doubtful whether it is justified in any case. The name presents, therefore, a test case of the Plenary Power.

Unfortunately, the petitioners have presented their case of *Cyclosalpa* in such a way that the Commission can not act upon the case of *Holothuria* 1758 vs. *Physalia* 1801 and *Holothuria* of authors vs. *Bohadschia* 1833, at the present time, and it becomes necessary to notify the zoological profession that these two cases will come up for consideration under the Plenary Power authority. The Secretary has taken action in this direction. He was scarcely in a position to take this action earlier, on account of the fact that the petitioners' case of *Cyclosalpa* 1827 vs. *Holothuria* of Poche 1912 had not reached a stage in its procedure that justified further public notice.

On basis of the premises presented by the petitioners, and the supplementary data submitted in the foregoing discussion, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) *Cyclosalpa* 1827 is not invalidated by *Holothuria* 1758.

(2) The data submitted by the petitioners are not clear as to the point whether *Cyclosalpa* 1827 is invalidated by *Thalia* 1791.

(3) If *Thalia* 1791 is, as intimated by Schulze (1912), synonymous with *Salpa* 1775, *Cyclosalpa* 1827 is in no danger of being suppressed in favor of *Thalia* 1791.

(4) If *Thalia* 1791 is only a doubtful synonym of *Cyclosalpa* 1827, it is neither necessary nor wise to suppress *Cyclosalpa* 1827 in favor of *Thalia* 1791.

(5) If, on the other hand, *Holothuria thalia*, the type of *Thalia* 1791, is definitely recognized by systematists as congeneric with the type of *Cyclosalpa* 1827, a very simple case is presented in which the Law of Priority should be applied, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(6) *Holothuria* 1758 (type *physalis*) undoubtedly has priority over *Physalia* 1801.

(7) *Holothuria* of authors, as an echinoderm genus, type *tubulosa* (teste Apstein) is undoubtedly an illegal use of the name *Holothuria* and should (teste Gill, 1907; and Poche, 1907, and 1912) be superseded by *Bohadschia*.

(8) Notwithstanding the foregoing conclusions, the Commission advises zoologists to use *Physalia* 1801 for the Portuguese Man of War and *Holothuria* in its present general use in the echinoderms (namely, as a genus of Sea Cucumber) pending final action by the Commission on these two cases.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 3 Commissioners, who vote to preserve *Cyclosalpa* under Suspension of Rules: Apstein, Handlirsch, Kolbe.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE²² OF *DAGYSA* 1773 VS. *SALPA* 1775

Hawkesworth (1773a, 2-3), quoting from notes by Banks and Solander, gave a brief description of certain animals, and adds:

These animals are of a new genus, to which Mr. Banks and Dr. Solander gave the name of *Dagysa* from the likeness of one species of them to a gem.

²² *Salpa* Catesby 1743a, 17, mt. *purpurasens variegatus*, a fish.—Edwards in Catesby, 1771a, 17.—Sherborn 1902a, 865.

No specific name is used, but the locality is given as between Plymouth and Madeira, off the coast of Spain, where, it is stated, "the sea abounds with them."

Gmelin (1790a, 3131) accepts *Dagysa*, with the single species *notata* (based upon Banks and Solander, 1773, 2) which becomes the type species of the genus.

Ihle (1912a, 47) quotes "*Dagysa notata* (part)" as synonym of *Salpa vagina* Tiles, 1791.

Forskål (1775a, 112) proposed the genus *Salpa*, with generic diagnosis, to contain *maxima*, and 10 other species.²²

Catesby (1743a, 17) had already described a fish under the name *Salpa purpurasens variegata*, "The Lane-Snapper." As this antedates 1758, the name does not come into consideration in nomenclature. Sherborn (1902a, 856) quotes this as "*Salpa* G. Edwards in M. Catesby, Carol. II, 1771, 17.—P." This latter reference has been examined by the Secretary, and the list of Linnæan names has been examined by Commissioner Skinner; a transcript of the list for the name in question makes it clear to the Secretary that *Salpa* Catesby 1771 is not validated, hence it does not compete with *Salpa* 1775.

Poche (1907a, 109) rehabilitates *Dagysa* 1773 in place of *Salpa* 1775, changing the family name *Salpidæ* to *Dagysidæ*.

Ihle (1911a, 586) states that on basis of the description in Hawkesworth the identity of *Dagysa* and *Salpa* is only a conjecture, but that Home (1814) published a drawing of *Dagysa* which was made during Banks' trip, and that this (*Dagysa strumosa*) is identical with *Salpa tilesii* Sol. Ihle rejects *Dagysa* 1775 on the ground that he considers it was not published in accordance with the Rules, and in support of this view he quotes Hawkesworth's reference to "another animal of a new genus they also discovered . . . the genus was called *Carcinium opalinum*." Ihle does not, however, call attention to the fact that Hawkesworth quotes many Linnæan names consistently, and that the term "genus" in this case might easily be a lapsus,

Dagysa Banks & Solander, 1773, 2-3, in Hawkesworth 1773a, mt., species not named here.—Gmelin, 1790a, 3131, mt. *notata*.

Salpa Forskål, 1775a, 112, 117, includes *maxima*, *pinnata*, *democratica*, *mucronata*, *punctata*, *confederata*, *fasciata*, *sipho*, *africana*, *solitaria*, *polycratica*.—Apstein, 1915a, 186, cites *maxima* as type.

Biphora Bruguière, 1792a [1789, teste Sherborn, 1902a, 128], x, 178-183, includes 9 original species (1775) of *Salpa* (*maxima*, *pinnata*, *democratica*, *mucronata*, *punctata*, *confederata*, *fasciata*, *africana*, *polycratica*).

Dagysa Home, 1814, 366.

especially in view of the numerous instances in which the nomenclature of the author is consistent.

Poche (1912a, 411-412) replying to Ihle (1911a) points out that Hawkesworth uses many Linnæan names consistently, and Poche insists upon the validity of *Dagysa* 1773.

Ihle (1912a, 27) accepts *Salpa*, without mentioning type species, and adopting as earlier generic synonyms: *Dagysa* 1773 (which he marks as "non. bin."), and *Holothurium* 1774, and he gives *D. notata* (part) as synonym of *S. vagina*. Schulze (1912a, 27) adds in a footnote:

Linné hatte in der 10. Auflage seiner Systema naturæ im Jahre 1758 in seiner Gattung 4 Arten aufgeführt. Die erste Art, *H. physalis*, die jetzt unter dem Namen *Physalia* bekannt ist, muss als erste angeführte Species den Gattungsnamen *Holothuria* behalten, der vor *Physalis* die Priorität hat. Für die übrigen 3 Arten [*Thalia* 1756] des Linnéschen Genus, unter denen sich sicher als Salpen erkennbare Tiere befinden muss ein neuer Gattungsname gewählt werden und da bietet sich als Name des nächsten in Betracht kommenden Beschreibers Forskål der Name *Salpa*.—Der Herausgeber [Schulze] im Einverständnis mit dem Autor.

[On p. 17, however, Ihle gives these three species as doubtful synonyms of *Cyclosalpa pinnata*.]

Schulze (1912a, 27) considers that *Thalia* Browne should be classified as *Salpa*, while Ihle (1912a, 15) places *Thalia* as a doubtful synonym of *Cyclosalpa*.

Apstein (1915a, 186) cites *marima* as type of *Salpa*.

In connection with this case the point might well be mentioned that while Gmelin (1790a, 3129-3130) cites the original 11 species of *Salpa* under the generic name *Salpa*, Bruguière (1792a [or 1789, teste Sherborn 1902a, 128], x, 178-183) cites 9 of them under the generic name *Biphora*,²² and one of these is *marima* (type of *Salpa*, teste Apstein). Ihle (1912a, 27) gives *Biphora* as synonym of *Salpa*. Whether *Biphora* complicates the question of *Salpa* or not, is not evident from the premises submitted.

The petitioners ask that *Salpa* be protected, and from the references they give they apparently have in mind a protection from *Dagysa* 1773.

On basis of the premises submitted, supplemented by the details given in the foregoing, the Secretary draws the following conclusions:

(1) *Dagysa* 1773 is available from its publication in 1773.

(2) The case is presented with evidence that is not complete enough to permit more than a tentative opinion;

(3) Assuming (a) that the case of *Salpa* 1775 is not complicated by *Biphora* 1792 [or 1789], and (b) that *Dagysa notata* 1790 is congeneric with *S. maxima*, and (c) that *maxima* is the correct genotype of *Salpa*, the case of *Dagysa* 1773 vs. *Salpa* 1775 appears to be a very simple case of the priority of *Dagysa* 1773 over *Salpa* 1775, but

(4) No transfer of name from one group to another appears to be necessary, and

(5) No evidence is presented involving names of larval forms;

(6) Accordingly, no special complications appear to be present such as exist in the case of *Holothuria*.

(7) The evidence is therefore still lacking that the strict application of the Rules in this case would result in greater confusion than uniformity.

In view of the foregoing data the Secretary recommends that the Commission adopt as its Opinion the following:

(1) If *Dagysa* 1773, type *notata*, is a synonym of *Salpa* 1775, the Law of Priority should be applied, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(2) The evidence is apparently contradictory and incomplete.

(3) See also recommendation to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 10 Commissioners: Allen, Bather (part), Blanchard, Hartert, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from (in part) by 1 Commissioner: Bather.

Opinion dissented from by 4 Commissioners, who vote to retain *Salpa* under Suspension of Rules: Apstein, Handlirsch, Hoyle, Kolbe.

Bather: I do not quite concur in Clause 1 of the Opinion drafted by the Secretary.

Dagysa 1773 is a generic name without a specific name. It was not till 1790 that any species included in *Dagysa* received a name that could be quoted as that of the genotype. There are zoologists who, on this ground alone would hold *Dagysa* to be preoccupied by *Salpa* Forskål 1775 (assuming their identity).

But the identity of *Salpa* (with genotype *S. maxima*) and *Dagysa* (with genotype *D. notata*) is not admitted by all the Appellants; and the doubt is due to the insufficient description of *Dagysa*.

It must also be conceded that, even if the publication by Hawkesworth can be brought within the rules, it was not in very good form

and was so obscure that it escaped the search of even a careful investigator like Sherborn.

I therefore conclude that the continued use of *Salpa* should not be affected by the existence of *Dagysa*; and that *Dagysa* should not be used until, and unless, it be definitely proved to denote some genus that is *not Salpa*.

I agree, however, with Clause 2 of the drafted Opinion, and therefore I concur in Clause 3.

Hoyle: I am of the opinion that the use of *Dagysa* for *Salpa* will cause much confusion. *Salpa* is a name used not only by specialists but in laboratories, text-books and numerous books of travel. Under these circumstances I am obliged to divide my vote on the final question as I cannot vote for or against *in toto*.

CASE²³ OF *APPENDICULARIA* 1820, *OIKOPLEURA* 1831,
APPENDICULARIA 1874, *APPENDICULA* 1915,
AND *APPENDICULARIIDÆ*

Chamisso and Eysenhardt (1820a,²⁴ 362) propose the genus *Appendicularia*, with the monotype *A. flagellum* 1820, a new Artic species taken in St. Lawrence Gulf [Bay], Bering Strait. They give no generic diagnosis, but they print a short specific diagnosis and they figure the species.

As shown above (footnote 7), Mertens (1831a, 205-220) claims to have found this same species (*A. flagellum*) in its type locality (St. Lawrence Gulf [Bay], Bering Strait) and definitely to have recognized it as *A. flagellum*; he deliberately renames the genus as *Oikopleura* and the species as *chamissonis*. This species is the only one he cites for *Oikopleura*, hence it is genotype both by renaming and by monotypy.

Accordingly, until it is proved that Mertens was wrong in considering the two animals identical, *Oikopleura* 1831 must be con-

²³ *Appendicularia* Chamisso and Eysenhardt, 1820a, 362, monotype *flagellum* 1820a, 312-363, pl. 31 fig. 4 (St. Lawrence Gulf [Bay], Bering Sea).

Oikopleura Mertens, 1831a, 205 (*Appendicularia* 1820 renamed), mt. *O. chamissonis* 1831a, 205-220, pls. 1-2 (*A. flagellum* renamed), (same locality, but different collection).

Appendicularia Fol, 1847a, xlix, mt. *sicula* 1874a, xlix-liii, pl. 18 figs. 1-5 (at Messina).

Appendicula Bartsch, 1915a, 145, tod. *Appendicularia sicula*. New name for *Appendicularia* Fol.

²⁴ The exact date, 1820 or 1821, cannot be definitely determined from the copy consulted by the Secretary, but the Appellants give it as 1820.

sidered a synonym of *Appendicularia* 1820, and *O. chamissonis* 1831 an absolute synonym of *A. flagellum* 1820.

Fol (1872a, 469) states that *Oik. chamissonis* is one of the three species of *Oikopleura* that is recognizably described and he adopts the generic name *Oikopleura*, but as shown above (footnote 6), he (1872a, 460) states that the description of *A. flagellum* is so vague that he considers himself justified in using *Appendicularia* in any way he may wish, and he adopts the French vernacular *Appendiculaires* as the family name.

Further, as shown above (footnote 6), Fol (1874a, xlix) persists in his view that he may use *Appendicularia* in any way he desires, and he applies it to a new genus ("un nouveau genre") for which he cites "Cham." as author, and in which he mentions only one form, *Appendicularia sicula* n. sp.

Accordingly, Fol recognized *Oikopleura*, monotype *O. chamissonis*, but could not recognize its absolute synonym, *Appendicularia*, monotype *flagellum*, further than that it belonged to the same family, so he uses *Appendicularia* for a new genus, which Chamisso never described, and he attributes this new genus of 1874 to Chamisso 1820. It is clear, therefore, (1) that nomenclatorially *Appendicularia* 1874 is to be considered monotypic, (2) that it is to be attributed to Fol, and (3) that it is preoccupied by *Appendicularia* 1820 (syn. *Oikopleura* 1831).

The names *Appendicularia* 1820 and *A. flagellum* 1820 have found their way into certain standard text-books,²⁵ and a family name *Appendiculariidae* exists which is based upon *Appendicularia* 1820.

Apstein (1915a, 186) cites *A. sicula* as type of *Appendicularia* Fol, 1874, and Bartsch (1915a, 145) proposes the name *Appendicula*, type *sicula*, for *Appendicularia* 1874, because it is preoccupied by *Appendicularia* 1820 [syn. *Oikopleura*].

The Appellants submit that *Ap. flagellum* 1820 is unrecognizable, but they do not discuss the facts that Mertens recognized it and renamed it, and that Fol considers that *Oikopleura chamissonis*

²⁵ Leunis (1883a, 813) recognizes the family *Appendiculariidae*, with the genus "*Appendicularia* Cham." and the species "*A. flagellum* Cham."

Claus (1885a, 586) recognizes the family *Appendicularidae*, and the genus "*Oikopleura* Mertens (*Appendicularia* Cham.)."

Knauer (1887a, 46) recognizes *Appendicularidae*, with "*Appendicularia* Cham. *Fritillaria* Fol, etc."

Parker and Haswell (1901a, 24) recognize "*Appendicularia* (*Oikopleura*)," but (p. 22) they cite *Appendicularia* and *Oikopleura* as distinct genera in *Appendiculariidae* and they do not quote the author of the generic names.

[namely *Ap. flagellum*] was, up to 1872, one of the three species of *Oikopleura* [namely *Appendicularia* 1820] recognizably described, and they request that the Rules be suspended in order to validate *Appendicularia* Fol, 1874a, which otherwise would have to be renamed, and, they add, "Der Name der Ordnung *Appendicularidæ* würde verschwinden."

Appendicularia Fol, 1874a, and *Fritillaria* Fol, 1872a," may be taken as samples of several cases of nomenclature that have come to the attention of the Secretary, and in considering them it will be well to hold in mind that they by no means represent isolated or unique cases. In fact, the decision on these two cases will constitute a precedent upon basis of which a number of cases may depend.

It seems clear that this represents a case in which, if the Rules are enforced, a generic name used by some authors for one group (*Appendicularia* Fol, 1874, type *sicula*) will be transferred back to another group (*Appendicularia* Cham. and Eysenh., type *flagellum*) mentioned under this same name in standard text-books as late as Claus (1885a) and Leunis (1886a), and this action would suppress the name *Oikopleura* 1831 (which is an absolute synonym of *Appendicularia* 1820): but the premise of the petitioners, that the family [not ordinal] name *Appendiculari[i]dæ* would disappear, is not clear. From the standpoint that the Rules would require a transfer of the generic name from one genus to another, the Appellants seem to have a stronger case than they appear to have recognized, but it would seem that they have presented only part of the facts, and that they are in error as to the required change of *Appendiculari[i]dæ*.

Again, what will be the effect of admitting to special privilege a case like this, in which an author claims the right to use in any way he wishes a name which is obscure to him (Fol), but which another author (Mertens) claims to have identified correctly with a given animal collected in the original type locality, especially when the name in question belongs to a group which even its leading authors of modern times have not yet brought to the nomenclatorial status of a genotype basis?

The case of *Appendicula* 1915 vs. *Appendicularia* 1874 (pre-occupied) is a very simple case of the application of the law of Priority to one and the same genus, and would not produce much confusion. But the Appellants have presented their case so incompletely that it is not clear to the Secretary whether it would be wiser to supplant *Oikopleura* 1831 by *Appendicularia* 1820 or to suppress *Appendicularia* entirely. In view of the danger involved in validating

nomenclatorial work based upon the principle advanced by Fol, it is not at all impossible, though it is not yet clear, that the most far-sighted course might perhaps be to suspend the Rules by validating *Oikopleura* 1831, in spite of the fact that it is antedated by *Appendicularia* 1820, and at the same time to suppress *Appendicularia* 1872 in favor of *Appendicula* 1915 in order not to admit nomenclatorial practices of this nature.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) *Appendicularia* Chamisso and Eysenhardt, 1820, has priority over *Oikopleura* Mertens, 1831.

(2) *Appendicularia* Fol, 1874, is a homonym of *Appendicularia* 1820, and should be suppressed unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity. If suppressed, the name *Appendicula* 1915 is available as substitute.

(3) The contention of the Appellants that a change of the ordinal [read family] name *Appendiculari[i]dæ* is involved is not made clear to the Commission in the premises contained in the presentation of the case.

(4) See also proposition to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 2 Commissioners, who vote to retain *Appendicularia* Fol under Suspension of Rules: Apstein, Kolbe.

Not voting, 5 Commissioners: Dautzenberg, Handlirsch, Horváth, Roule, Simon.

CASE²⁸ OF *DOLIOLUM* 1823, *PYROSOMA* 1804, *DOLIOLUM* 1834, *DOLIOLETTA* 1894, AND *DOLIOLIDÆ*

Otto (1823a, 313) describes "*Doliolum mediterraneum*" (type specimen deposited in Zool. Museum, Breslau), an animal collected, free swimming on the surface, Gulf of Naples.

²⁸ *Doliolum* Otto, 1823a, 313, mt. *mediterraneum* 1823a, 313-314, pl. 42 fig. 4.

Doliolum Quoy and Gaimard, 1834a, 599, contains *denticulatum* 1834a, 599-601, pl. 89 figs. 25-28 (from "la côte de l'île Vankiro") and *caudatum* 1834a, 601-602, pl. 89 figs. 29-30.—Apstein, 1915a, 186 (cites *denticulatum* as type).

Dolioletta Borgert, 1894a, 14 (subg. of *Doliolum*) contains *Doliolum gegenbauri*, *tritonis*, *nationalis*, *challengeri*, *denticulatum* 1834, *affine*, *ehrenbergi*.

Doliolina Borgert, 1894a, 14-18 (subg. of *Doliolum*) contains *Doliolum mülleri*, *krohnii*, *rarum*.

Quoy and Gaimard (1834a, 599) proposed *Doliolum* as a name for a new genus to contain *D. denticulatum* (sur la côte de l'île Vankiro) and *D. caudatum* (La Nouvelle-Holland et Nouvelle-Zéland). They had full knowledge of the existence of *Doliolum* Otto, 1832, as is shown by their statement quoted in footnote 6 (see above, p. 44).

The Appellants (see Statement of Case) consider that *Doliolum* 1823 is a "wohl durch *Phronima* ausgefressene *Pyrosoma*," but they do not state whether this opinion is based upon a re-examination of the type specimen that was deposited at Breslau.

One of the Appellants (Borgert, 1894a, 14-18) has divided *Doliolum* 1834 into two subgenera, *Dolioletta* and *Doliolina*. He designates genotypes for neither, but includes in *Dolioletta* the genotype of *Doliolum* 1834, and thus uses a new subgeneric name for what he apparently considers the typical subgenus of *Doliolum* 1834, a subgenus for which, on his own premises, he should have used *Doliolum* s. str. instead of proposing the new name *Dolioletta*. This latter point has apparently remained unnoticed by all his colleagues. Bartsch has brought it to the attention of the Commission.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) According to the premises presented by the Appellants, *Doliolum* Otto, 1823, type *mediterraneum*, is a synonym of *Pyrosoma* 1804.

(2) *Doliolum* Quoy and Gaimard, 1834, is a homonym of *Doliolum* 1823, and as such should be rejected, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(3) The presentation of the case by the Appellants is incomplete, as it fails to consider *Dolioletta* Borgert, 1894.

(4) The premise that a new name will have to be proposed for *Doliolum* 1834 is incorrect, for one of the Appellants has already proposed *Dolioletta* for the typical subgenus of *Doliolum* 1834, which presumably will supplant *Doliolum* 1834.

(5) If the Rules were suspended in order to validate *Doliolum* 1834, *Dolioletta* 1894 would fall into synonymy unless its genotype (apparently undesignated at present) is shown to belong in a genus or a subgenus other than that which contains *Dol. denticulatum* 1834. Accordingly, so far as data are available, *Doliolum* 1834 must be suppressed if the Rules are applied and *Dolioletta* 1894 must be suppressed if the Rules are suspended.

(6) If *Doliolum* 1834 is suppressed, *Dolioletta* 1894 can best be taken as the name of the genus (so far as the foregoing data show) and a new family name should then be based upon it. This is a

very simple and clear application of the Rules, and the evidence thus far presented does not carry with it a conviction that greater confusion than uniformity would thereby result.

(7) See also motion to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 3 Commissioners, who vote to retain *Doliolum* Quoy and Gaimard, 1834, under Suspension of Rules: Apstein, Handlirsch, Kolbe.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE²⁷ OF *FRETILLARIA* 1842, *FRITILLARIA* 1851, *FRITILLARIA* 1872, AND *FRITILLUM* 1915

Quoy and Gaimard's (1833a, 10) original reference is to "notre genre Fretillaire que nous avons rencontré dans plusieurs mers, notamment aux environs du cap de Bonne-Espérance, où il donnait à l'eau une teinte rouge brun, bien que chaque individu n'eût qu'une ligne de longueur." In a footnote on the same page they add: "C'est probablement le genre *Oikopleura* de Mertens," 1830.

In the same publication, Quoy and Gaimard (1833a, 304-306, pl. 26 figs. 4-7) discuss the new species *Oikopleura bifurcata* which presumably is the same form referred to on page 10 as "notre genre Fretillaire," although the name Fretillaire is not mentioned on pp. 304-306. Regarding *Oikopleura bifurcata* they say (page 304):

étant sur les sondes de banc des Aiguilles, en vue de terre, et vis-à-vis la baie d'Algoa, nous vîmes—par intervalle, dans d'assez grands espaces, et par zones, la mer devenir rouge brun. En y plongeant un filet d'étamins nous reconnûmes que cette couleur était due à une énorme quantité de petits animaux, longs d'une ligne ou deux, etc.

²⁷ *Fretillaire* Quoy and Gaimard, 1833a, 10, mt. *Oikopleura bifurcata* 1833a, 304-306, pl. 26 figs. 4-7 (Cape of Good Hope and Algoa Bay).

Fretillaria Agassiz, 1842a, Acalaphæ, 4, (for *Fretillaire* 1833, hence) mt. *Oikopleura bifurcata* 1833.

Fritillaria Huxley, 1851a, 595 (for *Fretillaire* 1833, hence) mt. *Oikopleura bifurcata* 1833.

Appendiculaires Fol, 1872a, 460, 492, family contains *Oikopleura*, *Fritillaria*, *Kowalewskia*; 1874a, xlix, adds *Appendicularia* n. g.

Fritillaria Fol, 1872a, 473-481, contains *furcata* (syn. *Eurycercus pellucidus* Busch, 1851), *megachile*, *aplostoma*, *formica*, *urticans*, (type not designated).—Apstein, 1915a, 186 cites *pellucida*, 1851, as type.

Fritillum Bartsch, 1915a, 145-146, tod. *Fritillaria megachile* 1872. (New name for *Fritillaria* 1872 not 1851.)

From the foregoing it is clear that, nomenclatorially, Quoy and Gaimard never proposed the genus *Fritillaria*, but that they used a provisional French name "Fretillaire," for a genus, and that they recognized this, prior to publication, as probably identical with *Oikopleura* Mertens, 1831.

The genus *Oikopleura* (see footnote 7) was published by Mertens (1831a, 205-220) as a monotypic genus based upon *O. chamissonis*, which Mertens considered identical with Chamisso's *Appendicularia flagellum* and which he therefore deliberately renamed.

Agassiz (1842a, 4) quotes the Latin name "*Fritillaria* Quoy et G. Zool. de l'Astr. Fretum, Beroidæ." Although he does not give page reference to Quoy and Gaimard it seems legitimate to conclude that he refers to Fretillaire 1833, p. 10, hence the type species of *Fritillaria* 1842 is *Oikopleura bifurcata* 1833.

Huxley (1851a, 595) refers to the genus "*Fritillaria* Quoy and Gaimard," for which he accepts the name *Oikopleura bifurcata*. Thus, *Fritillaria* 1851 equals *Fretillaria* 1842, with identical type species.

As shown above (footnote 6) Fol (1872a, 460) considered that since *Fritillaria* 1851 [Fretillaire 1833] was described in a manner that he considered vague, he had a right to use it in any way he desired, and he applied it to the species *F. furcata* (Vogt), and four new species; and later Fol (1874a, xlix), reaffirming his right to use, in any way he desires, names which he considers unrecognizable in their original application, continues to use *Fritillaria* in the sense he proposed in 1872.

Accordingly, *Fritillaria* 1872 should be construed as a new generic name that is preoccupied by *Fritillaria* 1851. The name *Fritillaria* 1872 has found its way into certain text books, such as Leunis (1883a), Claus (1885a), etc.

Apstein (1915a, 186) designates *F. pellucida*²⁸ Busch, 1851, as type of *Fritillaria* 1872.

Bartsch (1915a, 146) proposes the name *Fritillum* (tod. *Fritillaria megachile*) as substitute for *Fritillaria* Fol, 1872.

According to the premises presented by the Appellants:

(1) *Fritillaria* Huxley, 1851, would become synonym of *Oikopleura* Mertens, 1831 and (2) a new name would have to be given to *Fritillaria* Fol, 1872, in case the Rules are applied.

²⁸ Fol (1872a, 476) gives *Eurycerus pellucidus* Busch 1851, as synonym of his first species *F. furcata*.

In regard to the first premise, it may be pointed out that *Oikopleura* Mertens, 1831, is a monotypic genus based upon *Oik. chamissonis*, and further that *Oikopleura* is a deliberate renaming of *Appendicularia* Chamisso and Eysenhardt, monotype *Ap. flagellum* (renamed *Oikopleura chamissonis* with same type locality). The Appellants claim (see case of *Appendicularia*) that the type of this genus (*Ap. flagellum* [= *Oikopleura chamissonis*]) is not recognizable. Fol (1872a, p. 469) claims that *Oik. chamissonis* (= *Ap. flagellum* renamed) is one of the three species of *Oikopleura* [*i. e.*, *Appendicularia*] that is recognizable.

Accordingly, the Appellants' presentation of the case is not sufficiently clear to serve as final premises for decision.

If *Oikopleura bifurcata* is a true *Oikopleura*, *Fritillaria* 1851 becomes a synonym of *Appendicularia* 1820, since *Oikopleura* 1831 is *Appendicularia* 1820 renamed. Accordingly, under this premise, *Fritillaria* 1851 can become valid only in case its type species is placed in some genus or subgenus other than that to which *chamissonis*=*flagellum* is assigned.

The statement that another name would have to be used for *Fritillaria* 1872 was, on basis of the premises, correct, and Bartsch (1915a) has proposed such a name (*Fritillum*).

On basis of the presentation by the Appellants, supplemented by the foregoing data, the Secretary finds that:

- (1) The presentation of the case is incomplete;
- (2) If all of the essential facts are now before us, *Fritillaria* 1872 presents a very simple case that calls for the application of the Rule of Homonyms and the Law of Priority;
- (3) The Appellants have not yet shown that an application of the Rules in this case will result in greater confusion than uniformity, especially since a suspension of the Rules would tend to validate Fol's principle that when an author considers as obscure the description upon which a name is based, he is at liberty to use this name in any way he may desire.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) As *Fritillaria* Huxley, 1851 (= *Fretillaria* Agassiz, 1842) is based upon an animal (*Oikopleura bifurcata*) with known type locality and said to occur in large numbers, it would appear possible to determine definitely what this organism is.

(2) If *Oikopleura bifurcata* is a true *Oikopleura*, *Fritillaria* 1851 becomes a synonym of *Appendicularia* 1820 (syn. *Oikopleura* 1831).

(3) *Fritillaria* Fol, 1872, is a homonym of *Fritillaria* Huxley, 1851, and should be suppressed unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity. If suppressed, *Fritillum* 1915 is available as a substitute.

(4) See also recommendation to table, page 69 (below).

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bathier, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 2 Commissioners, who vote to retain *Fritillaria* Fol, 1874, under Suspension of Rules: Apstein, Kolbe.

Not voting, 5 Commissioners: Dautzenberg, Handlirsch, Horváth, Roule, Simon.

MOTION TO TABLE THE CASES OF *APPENDICULARIA*, *DOLIOLUM*, *FRITILLARIA*, AND *SALPA*

Referring further to the cases of *Appendicularia* 1874, *Doliolum* 1834, *Fritillaria* 1851, and *Salpa* 1775, the Secretary recommends, on basis of reasons given below, that the Commission adopt as its Opinion the following:

(1) The Appellants have not presented evidence that convinces the Commission that the strict application of the Rules in these cases will result in greater confusion than uniformity, hence the Commission does not at present see its way clear to suspend the Rules.

(2) The cases in question are herewith laid upon the table indefinitely, but without prejudice, in order to give to the Appellants an opportunity to present more satisfactory and convincing evidence in support of their position.

(3) The Commission is of the opinion that the complaints in respect to confusion in the nomenclature of the Tunicates are due to two causes in particular, namely (a) the principle of genotypes does not appear to have been consistently applied, and (b) rules available to authors of new names have not been adopted by said authors.

(4) The Commission urgently recommends that specialists in the tunicates determine without unnecessary delay the proper genotypes, in accordance with Article 30 of the Rules, as a prerequisite to a satisfactory basis for an intelligent consideration of the nomenclature of the group.

REASONS FOR THE FOREGOING RECOMMENDATION.—The foregoing recommendation is based upon the following premises:

(1) If any serious attempt has been made to apply the Rules consistently to the tunicate generic names by designating the genotypes in accord with Article 30, this fact has not been brought to the attention of the Commission, accordingly, specialists in this group do not appear to have brought their subject to the point where it seems wise to set an example that might inhibit or handicap thorough nomenclatorial work of that kind.

(2) The presentation of the cases as submitted by the Appellants has been shown to contain a number of errors, and to be very incomplete.

(3) Only four of the Commissioners (one of these is also one of the Appellants) in their preliminary expression of opinions, appear to be inclined to the view that more than one of the six cases submitted call for a possible suspension of the Rules, accordingly, if these cases come to final vote at present, they are doomed to rejection.

(4) As these are the first cases brought forward for action under the Plenary Power, the Appellants were at a disadvantage in not having precedents upon which they might judge the policy of the Commission, hence they had no way of knowing how complete or convincing an argument might be necessary to induce the Commission to suspend the Rules.

(5) By laying these cases on the table, instead of rejecting them, the Commission will not only establish the precedent that suspension will not be looked upon favorably on basis of incomplete data, but it will escape the possible misinterpretation of doing an injustice to a group of men by rejecting their proposition before they had any way of knowing the policy the Commission would adopt in construing its duty under the Plenary Power resolutions.

(6) Finally, if the cases are tabled instead of being rejected, the Commission can act upon them without further public notice.

Motion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Not voting, 7 Commissioners: Apstein, Dautzenberg, Handlirsch, Horváth, Kolbe, Roule, Simon.

The final results are as follows: The cases of *Appendicularia* 1874, *Doliolum* 1834, *Fritillaria* 1851, and *Salpa* 1775, are tabled without prejudice in order to give the Appellants an opportunity to present more satisfactory and convincing evidence in support of their position.

The case of *Pyrosoma* is decided in harmony with the Code, and the result is identical with what the Appellants desired to obtain under Suspension.

OPINION 77

THIRTY-FIVE GENERIC NAMES IN PROTOZOA, COELENTERATA,
TREMATODA, CESTODA, CIRRIPIEDIA, TUNICATA, AND PISCES
PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: PROTOZOA: *Arcella*. COELENTERATA: *Hydra*. TREMATODA: *Hemiurus*, *Schistosoma*. CESTODA: *Anoplocephala*, *Hymenolepis*, *Moniezia*, *Stilesia*, *Thysanosoma*. CIRRIPIEDIA: *Lepas*. TUNICATA: *Pyrosoma*. PISCES: *Acipenser*, *Callionymus*, *Chimæra*, *Clupea*, *Coryphæna*, *Cottus*, *Cyclopterus*, *Cyprinus*, *Diodon*, *Gadus*, *Gasterosteus*, *Gobius*, *Lophius*, *Mormyrus*, *Mullus*, *Muræna*, *Osmerus*, *Perca*, *Salmo*, *Scomber*, *Scorpxena*, *Silurus*, *Syngnathus*, *Zeus*.

STATEMENT OF CASE.—A list of 39 generic names, submitted for inclusion in the Official List of Generic Names, was issued in the Secretary's Circular Letter no. 35 (March, 1917), which was mailed to about 350 zoologists and zoological institutions, and was published by Monticelli in the *Monitore zoologico*. In the replies received questions have been raised in respect to 4 of these names to wit, *Esox*, *Exocatus*, *Ophidion*, and *Platessa*, and although it is thought that the points can be easily settled these four have been tabled, without prejudice, for further consideration. No objection of any kind has been raised to any of the remaining 35 names.

ABBREVIATIONS

- A. = Proposed for Official List by Apstein, 1915a. [See Opinion 74, p. 32.]
 HSW. = Case has been studied by a Committee from the Helminthological Society of Washington, D. C., is guaranteed and recommended to the Commission by said Society.
 J. = Case has been studied for the Commission by Commissioner David Starr Jordan, and the name recommended by him with the genotype cited.
 mt. = Monotypic.
 S. = Secretary of the Commission has verified original generic and specific references, considers the generic name available and valid under the Rules, and considers the type designation correct.
 tod. = Type by original designation.
 tsd. = Type by subsequent designation.
 Bibliographic abbreviations taken from Stiles & Hassall's Index Catalog of Medical and Veterinary Zoology.

PROTOZOA

Arcella Ehrenberg, 1830a (1832a), 60, 73, (40, 53); tod. *A. vulgaris* Ehrenb., 1830a (1832a), 60, 73, 81, 89, 90, 95 (40, 53, 61, 69, 70, 75), pl. 1 fig. 6. [A; S.]

COELENTERATA

Hydra Linn., 1758a, 816; tsd. *H. polyopus* Linn., 1758a, 816, (syn. *vulgaris, viridis*). [A; S.]

TREMATODA

Hemiurus Rud., 1809a, 38; tsd. *Fasciola appendiculata* Rud., 1802, 78 (type host *Clupea alosa*; Europe). [A; HSW; S.] [Not *Hemiurus* Gerv., 1855, mammal; *Hemiura* Ridgway, 1888, bird.]

Schistosoma Weinland, 1858a [prior to Sep. 30], 87; mt. *Distoma hæmatobium* Bilharz, 1852a, 72 (type host *Homo*; Egypt). [HSW; S.] [Absolute synonyms: *Gynæcophorus* Dies., 1858 (type *hæmatobius*); *Bilharzia* Cobbold, 1859 (type *hæmatobia*); *Thecosoma* Moquin-Tandon, 1860 (type *hæmatobium*); *Schistosomum* R. Blanch., 1895 (type *hæmatobium*).] [Not *Schistosoma* Brady, 1877, arach.]

CESTODA

Anoplocephala E. Blanchard, 1848e, 344-345; tsd. *Tænia perfoliata* Gœze, 1782a, 43, 353 (type host *Equus caballus*; Europe). [HSW; S.] [Not *Anoplocephala* Stal, 1870, hemipteron.]

Hymenolepis Weinland, 1858a, 52; tsd. *Tænia diminuta* Rud., 1819a, 689 (type host *Mus rattus*; Brazil). [HSW; S.]

Moniezia R. Blanchard, 1891l, 187, 194, 195 (2, 9, 10); tod. *Tænia expansa* Rud., 1805a, 38 (type host *Ovis aries*; Alfort Museum, France). [HSW; S.]

Stilesia Rail., 1893a, 277-278; tod. *Tænia globipunctata* Rivolta, 1874 (type host *Ovis aries*). [HSW; Secretary of Commission has been unable to verify original publication for *T. globipunctata*, but except for this one point he agrees; Railliet dates *T. globipunctata* as 1877, but Monticelli gives it as 1874.]

Thysanosoma Dies., 1835a, 105; mt. *T. actinioides* Dies., 1835a, 106 (type host *Cervus dichotomus*; Brazil). [HSW; S.]

CIRRIPEDIIA

Lepas Linn., 1758a, 667; tsd. *L. anatifera* Linn., 1758a, 668. [A; Case guaranteed to Commission by H. A. Pilsbry; S.]

TUNICATA

Pyrosoma Peron, 1804, 437, 440, pl. 72, mt. *P. atlanticum* Peron 1804, 440, pl. 72. [Aug. 18 or earlier, 1804.] [A; S.] [See Opinion No. 76, p. 47.]

PISCES

Acipenser Linn., 1758a, 237; tsd. *A. sturio* Linn., 1758a, 237. [A; J; S.]

Callionymus Linn., 1758a, 249; tsd. *C. lyra* Linn., 1758a, 249. [A; J; S.]

- Chimæra* Linn., 1758a, 236; tsd. *C. monstrosa* Linn., 1758a, 236. [A; J; S.]
Clupea Linn., 1758a, 317; tsd. *C. harengus* Linn., 1758a, 317. [A; J; S.]
Coryhæna Linn., 1758a, 261; tsd. *C. hippurus* Linn., 1758a, 261. [A; J; S.]
Cottus Linn., 1758a, 264; tsd. *C. gobio* Linn., 1758a, 265. [A; J; S.]
Cyclopterus Linn., 1758a, 260; tsd. *C. lumpus* Linn., 1758a, 260. [A; J; S.]
Cyprinus Linn., 1758a, 320; tsd. *C. carpio* Linn., 1758a, 320. [A; J; Leunis: mt.; S.]
Diodon Linn., 1758a, 334; tsd. *D. hystrix* Linn., 1758a, 335. [A; J; S.]
Gadus Linn., 1758a, 251; tsd. *G. morhua* Linn., 1758a, 252. [A; J; S.] [Not *Gadus* Dejean, 1821, coleopt.]
Gasterosteus Linn., 1758a, 295; tsd. *G. aculeatus* Linn., 1758a, 295. [A; J; S.]
Gobius Linn., 1758a, 262; tsd. *G. niger* Linn., 1758a, 262. [A; J; S.]
Lophius Linn., 1758a, 236; tsd. *L. piscatorius* Linn., 1758a, 236. [A; J; S.]
Mormyrus Linn., 1758a, 327; tsd. *M. cyprinoides* Linn., 1758a, 327. [A; J; S.]
Mullus Linn., 1758a, 299; tsd. *M. barbatus* Linn., 1758a, 299. [A; J; S.]
Muræna Linn., 1758a, 244; tsd. *M. helena* Linn., 1758a, 244. [A; J; S.]
Osmerus Linn., 1758a, 310; tsd. *Salmo eperlanus* Linn., 1758a, 310. [A; J; S.]
Perca Linn., 1758a, 289; tsd. *P. fluviatilis* Linn., 1758a, 289. [A; J; S.]
Salmo Linn., 1758a, 308; tsd. *S. salar* Linn., 1758a, 308. [A; J; S.]
Scomber Linn., 1758a, 297; tsd. *S. scombrus* Linn., 1758a, 297. [A; J; S.]
Scorpaena Linn., 1758a, 266; tsd. *S. porcus* Linn., 1758a, 266. [A; J; S.]
Silurus Linn., 1758a, 304; tsd. *S. glanis* Linn., 1758a, 304. [A; J; S.]
Syngnathus Linn., 1758a, 336; tsd. *S. acus* Linn., 1758a, 337. [A; J; S.]
Zeus Linn., 1758a, 266; tsd. *Z. faber* Linn., 1758a, 267. [A; J; S.]

DISCUSSION.—In view of the foregoing premises, the Secretary recommends that the 4 names *Esox*, *Exocætus*, *Ophidion*, and *Platessa*, be tabled, without prejudice, for further consideration, and that the remaining 35 names be included in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch (part), Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Kolbe, Roule, Simon, Stejneger. Handlirsch not voting on the 2 Trematode and 4 Cestode names.

SMITHSONIAN MISCELLANEOUS COLLECTIONS

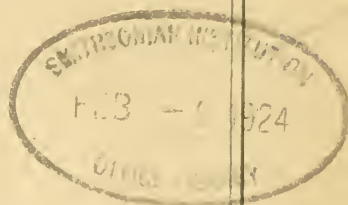
VOLUME 73, NUMBER 2

OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 78 TO 81



(PUBLICATION 2747)



CITY OF WASHINGTON
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OPINION 78

CASE OF *DERMACENTOR ANDERSONI* VS. *DERMACENTOR VENUSTUS*

SUMMARY.—On basis of the premises presented, the Commission is of the opinion that *Dermacentor venustus* dates from Marx in Neumann, 1897, type specimen Collection Marx No. 122 (U. S. National Museum), from *Ovis aries*, Texas, and that *Dermacentor andersoni* dates from Stiles, 1908, holotype U. S. P. H. & M. H. S. 9467, from Woodman, Montana.

STATEMENT OF CASE.—This case has been submitted to the Commission by W. Dwight Pierce in the following letter, W. Dwight Pierce to Stiles:

Feb. 18, 1920: The recent publication of Wolbach's excellent monograph on Rocky Mountain Spotted Fever, again brings critically before the medical profession the confusion as to the name of the spotted fever tick. In order that we may get at this thing right and forever legally settle this name I appeal to the International Commission to give us a definite ruling on the proper name of the Rocky Mountain Spotted Fever Tick. In order that this ruling may be based on absolutely fair and just premises I would request that statements be requested of Dr. C. W. Stiles, Mr. Nathan Banks, Mr. F. C. Bishopp, and Dr. Nuttall, and others if necessary, these statements to be used as briefs and to be published with the ruling. My personal conclusions are as follows:

1. That there is no question whatever that *Dermacentor andersoni* Stiles (1905) refers to the Rocky Mountain Spotted Fever Tick.
2. That there is debatable ground as to whether *D. venustus* Banks (1908) is conspecific and refers to the fever tick.
3. The first reference I find to *D. venustus* Marx mss. is in Neumann (1897) as a synonym of *D. reticulatus* Fabricius, undescribed.
4. *Dermacentor andersoni* Stiles was described as the fever tick, in 1905, (U. S. Treas. Dept., Hyg. Lab., Bull. 20, pp. 1-119) and the description strengthened in 1908 and 1910.
5. In 1908 Banks drew up the description, as a new species, of *D. venustus* (Marx mss.), from the Marx material, which was subsequently examined by Stiles, and found to consist of three lots of material of at least two species. Stiles definitely picked from Bank's type material Marx No. 122 as type of

the species *D. venustus*. This was Texas material. Since both Marx and Banks confused more than one species and neither designated an individual type from the material, Stiles' designation is valid.

6. In 1910 Stiles differentiated between the two species *D. andersoni* and *D. venustus*, using the designated type individuals as basis of his differentiation.

7. It therefore appears to me that *D. andersoni* not only is definitely the fever tick, but that it antedates *D. venustus* Banks, which may have originally had specimens of the fever tick contained within its series, but which when typically defined according to our laws of nomenclature is a very different species, with a range extraterritorial to the fever area.

8. The entire medical profession would welcome a final legal decision on this name at the earliest possible moment.

In accordance with Pierce's suggestion, the Secretary has invited Mr. Banks, Mr. Bishopp, and Doctor Nuttall to submit statements. No reply has been received from Nuttall.

Banks submits the following letter:

Cambridge, Mass., April 29, 1920: As far as I am concerned there is no "question" as to the name of the Rocky Mt. Spotted Fever Tick, and no decisions of any committee can alter facts. *D. venustus* was published in 1908, *D. andersoni* a few months later. All previous references to either name had nothing to do with the matter, as there was no description till that time. *D. andersoni* of 1905 was not referred to as the fever tick but as the tick that did not carry the disease.

Type label was placed on a certain vial of *D. venustus* at time of publication and anyone who examined the collection of the Bureau of Entomology would have found it.

Later attempts at limitation of the name cannot alter the facts.

Bishopp submits the following:

Dallas, Texas, May 1, 1920: I am enclosing herewith a statement on this subject which I drew up in 1912, which I believe sets forth my viewpoint in a rather concise way.

THE CORRECT NAME OF THE ROCKY MOUNTAIN SPOTTED FEVER TICK

By F. C. BISHOPP

There is considerable confusion regarding the correct scientific name of the tick which transmits Rocky Mountain spotted fever. As the several statements which have been made upon this question do not seem to have cleared the matter up, it seems best to briefly review the situation and show the exact status of the question.

Labels bearing the name *D. venustus* n. sp. were placed by Marx in vials containing specimens of ticks from Soldier, Idaho, Las Cruces, N. M., and Texas (on sheep). All of these specimens were deposited in the U. S. National Museum. No manuscript notes or drawings were left with this material.

After the death of Dr. Marx, these specimens together with other material from the Marx collection, were sent to Prof. L. G. Neumann for study. In

1897 Neumann, after studying this material, considered it the same as the European *D. reticulatus*, the manuscript name *D. venustus* being cited in identifying the specimens from the United States.

In 1905 Stiles used the name *andersoni* for material from Montana, concluding that the species did not transmit the disease known as Rocky Mountain spotted fever. This was a *nomen nudum* as it was unaccompanied by a description or by a specific indication. In June, 1908, Banks, after studying all of the Marx material, described the species, using the Marx name *D. venustus*. He used one of the males from Soldier, Idaho, as the type for his species. By doing this Banks repudiated Neumann's placing the species as a synonym of *reticulatus*. The name *venustus* cannot date from 1897 because Neumann did not specifically differentiate this species from his *reticulatus*, but confused it with his material. Banks, by describing this species in 1908, gave it a standing in nomenclature as a distinct species. In July, 1908, Stiles, after studying part of the Marx material exclusive of Banks' type of *D. venustus*, briefly described specimens from Montana under the name *D. andersoni*. Subsequently, Aug. 1910—(Taxonomic Value of the Microscopic Structure of the Stigmal Plates in the Tick Genus, *Dermacentor*, Bull. No. 62, Hygienic Laboratory), Stiles applied the name *D. venustus* to the Texas material which was contained in the Marx collection, and designated this as the type of the species. He stated that the New Mexico material could not be positively identified and that the Idaho specimen was not sufficient to base a determination upon. In this publication he fully described certain Montana material under the name *D. andersoni*.

On Oct. 29, 1910, in the JAMA, Stiles reiterates Banks' statement that Neumann was incorrect in placing *D. venustus*, Marx's manuscript, as a synonym of *D. reticulatus* but claimed that *venustus* should date from Neumann, 1897. In the last paragraph of this statement he says "Were the premise correct that Marx's specimens from Texas and New Mexico are identical with the specimens from Montana, *D. venustus* would of necessity be the correct name for the Rocky Mountain spotted fever tick, but this premise is erroneous and the name *venustus* must be applied to the species containing the original specimens designated under this name." We must take exception to the last portion of this sentence, as a part of the material labeled *D. venustus* by Marx (specimens from Soldier, Idaho), is identical with the form found in Montana and called *D. andersoni* by Stiles. One of these males from Soldier, Idaho, was designated as type of *D. venustus* by Banks. A careful comparison of this type specimen with Stiles' type of *D. andersoni* shows the two species to be identical and there is no question that this is the form which conveys Rocky Mountain spotted fever. Hence *D. andersoni* is a synonym of *D. venustus*, and if Stiles is correct in his belief that the specimens from "Texas on sheep" are specifically different from *D. venustus* of Montana, this species requires another name.

Stiles submits the following statement to the Commission:

1. IN SUMMARY, I submit to the Commission the following points:

a. Under the International Rules, the name *D. venustus* dates from Marx in Neumann, 1897a, 365. (Art. 25; Opinion of *Halicanpus grayi* 1856, ruled upon in Opinion No. 53.)

b. It would require, under the By-Laws, a two-thirds vote of the Commission to reverse Opinion 53 in the case of *D. venustus*.

c. As the original publication of *D. venustus* 1897 mentioned only two localities (New Mexico and Texas), only these two localities and no other come into consideration as type locality. (Not covered by the International Rules but in harmony with Zoological practice.)

d. The only original specimens of Marx's *D. venustus* mentioned by Neumann in 1897 have been found and identified, and only these come into consideration as type specimens. (Not covered by International Rules, but in harmony with Zoological practice.)

e. Marx No. 122, from Texas, host *Ovis aries*, is the first and the only originally published specimen publicly or privately designated as type specimen and this must remain type specimen. (Not covered by the International Rules, but in harmony with Zoological practice.)

f. *D. venustus* n. sp. Banks, 1908, is antedated by *D. venustus* 1897, hence is a homonym, hence is to be suppressed. (Art. 35.)

g. It is generally admitted (by Banks, Bishopp, Stiles, etc.) that *D. venustus* n. sp. Banks, 1908, is specifically identical with *D. andersoni* Stiles, (1905) 1908, but evidence is not lacking that it also contains Marx's specimens 120 from New Mexico and 122 from sheep in Texas. The only specimen of *D. venustus* 1908 known to have the label of "type" in Banks' handwriting is in the U. S. National Museum (Marx No. 10) and although Banks specifically states that his type belongs in the collection of the Bureau of Entomology, the Museum specimens can be taken as Banks' type until evidence of error is presented; this specimen seems to be specifically identical with *D. andersoni* [but as it is a single specimen, it has not been mounted]. Accordingly, *D. venustus* Banks, 1908, (nec Marx, 1897) is synonymous with *D. andersoni* Stiles (1905) 1908.

h. Under the International Rules *D. andersoni* is the earliest available name for the Rocky Mountain Spotted Fever Tick, hence (Art. 25, 35) it is the valid name.

i. As a matter of propriety, I will refrain from utilizing my Commissioner's right of vote on this case, since it involves a name proposed by myself, but I obligate myself to accept the decision of the Commission as determined by the By-Laws.

j. The following documents are submitted to the reviewing Commissioner (Stejneger) either in original or in copy, in connection with this case.

BANKS, 1908.—Revision of the Ixodoidea < Tech. Series, No. 15, Bureau of Entomology.

1910.—The Scientific Name of the Spotted Fever Tick < JAMA, v. 55 (18), 1574-1575.

? 1908.—Undated letter, Banks to Stiles regarding type specimen of *D. venustus*.

NEUMANN, 1897a.—Revision de la famille des Ixodidés. (2e mémoire) < Mém. Soc. Zool. France, Par., v. 10 (3-4), pp. 324-420.

STILES, 1905f. —A Zoological Investigation, etc., < Bull. 20, Hyg. Lab. 1907. —[Transcript of Minutes, Ent. Soc. Wash., Jan. 10, 1907, pp. 10-11, giving Secretary's abstract of Stiles' paper on stigmal plates of the genus *Dermacentor*.]

1908m.—The common tick (*Dermacentor andersoni*) of the Bitter Root valley < Pub. Health Rep., U. S. Pub. Health & Mar.-Hosp. Serv., Wash., v. 23 (27), p. 949.

1908. —Copy of letter, Stiles to Banks, June 10.

1909. —Copy of letter, Stiles to Banks, Mar. 19.

1909. —Copy of letter, Stiles to Banks, Oct. 23.

1910. —The taxonomic value of the microscopic structure of the stigmal plates in the tick genus *Dermacentor* < Bull. 62, Hyg. Lab.

1911. —Letter, Stiles to Banks, Feb. 20.

2. The first actual publication of the name *Dermacentor venustus* occurs in Neumann (1897a, 365) who examined specimens of ticks from the Marx collection, and determined them as *Dermacentor reticulatus*. His original reads as follows:

"D'Amérique, j'en ai 2 femelles originaires du Mont Diablo, en Californie (Coll. de l'Acad. des sciences de Californie). La Collection du Départ. of Agriculture de Washington et celle de la Smithsonian Institution en contiennent plusieurs mâles et femelles recueillis aussi en Californie, sur le Daim, et étiquetés par G. Marx *D. occidentalis*. D'autres proviennent du Texas et du Nouveau-Mexique et sont étiquetés *D. venustus*. Je rapporte aussi à la même espèce 9 mâles et 1 femelle, jeunes, à patine blanche encore peu marquée, à coloration générale brun foncé, provenant de Las Paz (?) et appartenant au Muséum de Berlin."

3. Accordingly, *D. venustus* was first published as a synonym of *D. reticulatus* and the original publication clearly cites Texas [Marx 122] and New Mexico [Marx 120] as the first published, hence type localities, unless it can be shown that Marx designated some other specimens from some other locality as type specimens.

4. The first point which arises is whether or not the manuscript or label name *D. venustus* received nomenclatorial status in this publication by Neumann. The answer to this question is found in three opinions already issued by the Commission, namely, Opinions Nos. 1, 4, and 53.

5. Status of a Manuscript Name published in Synonymy.—Article 25 of the Code reads:

"The valid name of a genus or species can be only that name under which it was first designated, on the condition:

(a) That this name was published and accompanied by an indication, or a definition, or a description; and

(b) That the author has applied the principles of binary nomenclature."

6. As Neumann (1897a) is both binary and binomial, the decision reverts to "(a)." This point has been discussed in several opinions, thus:

7. Opinion 1 states: "The word *indication* in Art. 25a is to be construed as follows: (A) with regard to specific names, an indication is (1) a bibliographic reference, or (2) a published figure (illustration), or (3) a definite citation of an earlier name for which a new name is proposed."

8. Opinion 4 states: "Manuscript names acquire standing in nomenclature when printed in connection with the provisions of Art. 25, and the question as to their validity is not influenced by the fact whether such names are accepted or rejected by the author responsible for their publication."

9. Opinion 53 covers a case identical with the one at issue, namely the status of "*Halicampus grayi* Kp. British Museum," published as synonym of "*Halicampus conspicillatus*," corresponding exactly to *Dermacentor venustus*, Collection Marx, U. S. Nat. Mus., published as synonym of *D. reticulatus*. In Opinion 53, written by Stejneger and Stiles, concurred in by 9 Commissioners, dissented from by 2 Commissioners, *Halicampus grayi* 1856 was recognized under Art. 25 and Opinion 4 as published and hence as available and was given precedence over *H. koilomatodon* (about 1865).

10. According to the By-Laws of the Commission, an Opinion cannot be reversed by less than a two-thirds vote. Opinion 53 has never before come up for reversal and unless a two-thirds vote now obtains against Opinion 53, *D. venustus* must be accepted as available from the date of 1897.

11. As *D. venustus* Marx in Neumann, 1897, is under Opinion 53 clearly to be accepted as a *published* and *available* name, and not as a *nomen nudum*, it remains to enquire into its validity. Two possibilities present themselves, namely,

a. Is *D. venustus* a synonym of *D. reticulatus*, as assumed by Neumann? If Neumann's view is sustained, the name *D. venustus* is clearly not valid for *D. reticulatus* unless it be shown that no earlier name for this species is available. But even then, as a synonym of *D. reticulatus* it would preclude its (*venustus*) later use for any other species.

b. Is *D. venustus* Marx in Neumann distinct from *D. reticulatus*? In other words, should *D. reticulatus* as defined by Neumann be sub-divided? All authors now agree that it should be, and that certain American (Marx) specimens of *D. reticulatus* (*D. venustus*) represent a distinct species.

12. Under this latter premise it is necessary to determine if possible the type specimen and the type locality of *D. venustus* Marx in Neumann.

13. Obviously, the type locality can be only the originally published locality and the type specimens can be only the originally published specimens. Fortunately, Neumann has given definite information as to the locality, namely, the United States of North America and he specifically cites two States, namely, Texas and New Mexico. Fortunately, it is possible to identify the original specimens also, on basis of the following data:

14. When Neumann returned the Marx material to the U. S. National Museum I borrowed the specimens. The exact date when these came into my hands does not appear to be recorded in my notes. There were three bottles which contained the name *D. venustus* on labels, namely, Marx No. 120, one male, from New Mexico; No. 121, one male from Soldier, Idaho, host, Mountain Goat; and No. 122, 3 males, 1 female, from Texas, host, *Ovis aries*. [See below, under Stiles, 1910.] It seems obvious that Nos. 120 and 122 represent the Marx material, and the only specimens of Marx's *D. venustus* mentioned by Neumann, 1897a, hence, only these two are available as type material. Later Stiles (1910, 44-46) definitely published Marx No. 122 as the type specimen. This is the first (and so far as I know, the only) publication of the Museum number of the type.

15. From copies of correspondence in my files it is clear that I returned Marx 122 to the U. S. National Museum accompanied by a letter dated March 19, 1909; and that I returned Marx 120 and 121 to the U. S. National Museum accompanied by a letter dated February 20, 1911.

16. My letter files also show that in answer to a letter from me dated Oct. 23, 1909, asking where the types of *D. parumapertus marginatus* and *D. nigrolineatus* were deposited, Mr. Banks replied (in an undated letter) that the type of *D. p. marginatus* was in his private collection, "the type of *Derm. venustus* in Bur[eau] Entom[ology] Coll[ection]," that of *D. nigrolineatus* in the Mus. Comp. Zool., Harvard, "cotypes or paratypes of *D. nitens* in Marx Coll., U. S. N. Mus." and of "*D. parumapertus* and *D. occidentalis*, also Marx coll., at least paratypes." It will be observed that this statement (namely, that the type of *D. venustus* is in the collection of the Bureau of Entomology [no mention of Marx collection]) is in harmony with Mr. Banks' statement of April 29, 1920. The Marx collection has at no time been the property of the Bureau of Entomology.

17. On Dec. 6, 1920, in the presence of Prof. H. E. Ewing, of the Bureau of Entomology, I examined three bottles of ticks at the U. S. National Museum, as follows: Marx 121 and 122 (see *supra*). Also a bottle containing the label "No. 10. *Dermacentor venustus* Marx Idaho Coll. Marx." This bottle also contains a paper with the word "type" written in a handwriting identified by Professor Ewing as that of Banks. The Marx label is in a different handwriting from that of Marx 121 and 122. This Marx 10 is not Marx 120.

18. Here is, accordingly, a bottle attributed to the Marx Collection which I had never seen prior to Dec. 6, 1920. It contains no label written either by Marx, by Neumann, or by E. A. Schwartz (who went over the Marx collection after Marx's death). Schwartz identifies the Marx label as probably written by C. V. Piper. That this specimen is not available as type specimen of *D. venustus* Marx in Neumann follows from the fact that Neumann (1897a) did not refer to any specimens from Idaho.

19. The fact that Banks twice states that the type of *D. venustus* is in the Bureau of Entomology Collection while the specimen with the label "No. 10, Coll. Marx," contains a slip of paper bearing the word "type" in Banks' handwriting is not, therefore, of special importance so far as the date 1897 is concerned, but comes into consideration in connection with the date 1908.

20. Banks (1908, 46-47, 55, pl. 8, figs. 4, 5, 7) described *Dermacentor venustus* n. sp. Banks. In addition to the specific description, which is clearly influenced chiefly by material from the Northwest, Banks states:

"Specimens come from various places in the West; Olympia, Yakima, Klikitat Valley, and Grand Coulee, Wash.; Fort Collins and Boulder, Colo.; Pecos and Las Cruces, N. Mex.; Bozeman, Mont.; Bridger Basin, Utah; Soldier, Idaho, and Texas (on sheep).

"This species is quite common in the Northwest. It has been included in *D. occidentalis*, by Neumann, but was separated out by Doctor Marx in manuscript under the name I have adopted. It is larger than *D. occidentalis*, with more red and less white in the coloring, and differs in many minor points of structure, as size of porose areas, size of hind coxae in male, etc. This is the species supposed to be concerned in the transmission of spotted fever in Montana."

21. It will be noticed that Banks cites specimens from "Pecos and Las Cruces, N. M." and "Texas (on sheep)" and that he says it was separated out from *D. occidentalis* "by Doctor Marx in manuscript under the name I have adopted." Banks does not cite the museum number of the type specimen.

22. The status of *D. venustus* n. sp. 1908 and its type specimen must be determined. Theoretically, three possibilities are present, namely:

a. *D. venustus* n. sp. Banks, 1908, might be identical with *D. venustus* Marx in Neumann, 1897; or

b. *D. venustus* n. sp. Banks, 1908, might represent a new species; or

c. *D. venustus* n. sp. Banks, 1908, might be *D. venustus* 1897 plus another species.

23. Is *D. venustus* n. sp. Banks, 1908, identical with *D. venustus* Marx in Neumann, 1897? Banks distinctly states that he adopts the name from Marx's manuscript. Neither Bishopp nor I have been able to find this manuscript, so possibly reference is made to the labels in the bottles. Banks quotes among the localities, "Las Cruces, New Mexico," "Soldier, Idaho," and "Texas (on sheep)." These three localities are in harmony with the Marx specimens Nos. 120, 121, 122. The presumption therefore would seem to be that Banks examined these three specimens. I am in a position to state that these three specimens, with drawings of No. 122, and with my manuscript giving No. 122 as type of *D. venustus* were placed on a table in my laboratory in front of Mr. Banks for examination prior to the publication of his paper. Bishopp (see *supra*) states that Banks studied "all of the Marx material" and this would seem to include Marx 120, 121, and 122. Banks, however, (1910, JAMA, 1574-1575) states that he never studied Marx 120 and 122 (namely the specimens published by me in 1910 as *D. venustus*). If Banks' *D. venustus* is identical with Marx's *D. venustus* as published in Neumann, the species should be attributed to Marx.

24. Is *D. venustus* n. sp. Banks, 1908, distinct from *D. venustus* Marx in Neumann, 1897? If this represents the correct status of facts, then *D. venustus* Banks, 1908, is a homonym of *D. venustus* 1897 and therefore cannot be used as a valid name.

25. Does *D. venustus* n. sp. Banks, 1908, include *D. venustus* Marx in Neumann, 1897, plus some other species? If this be the status of affairs, it is clear that such portion of *D. venustus* of Banks, 1908, as agrees with *D. venustus* 1897 should be allocated to *D. venustus* 1897 and that the remaining portion should be known under some other name.

26. It would appear, therefore, that the crux of the problem lies in establishing the type specimen of *D. venustus* of Banks, 1908. The evidence at my disposal, bearing on this point, is as follows:

27. Banks has twice stated in letters that the type of his *D. venustus* of 1908 is in the Collection of the Bureau of Entomology. He has also stated in a letter that "type label was placed on a certain vial of *D. venustus* at time of publication." Bishopp states that Banks "used one of the males from Soldier, Idaho, as type for his species." In the presence of Professor Ewing, Dec. 6, 1920, I established the fact that there is in the National Museum a specimen marked "Coll. Marx, *Dermacentor venustus* Marx Idaho," and that the bottle contains a label, identified by Ewing as in Banks' handwriting, reading "type."

28. The Marx specimen from "Soldier, Idaho," No. 121, was in my laboratory at the time Banks visited me in order to examine Marx's specimens, and it is not the specimen containing Banks' label "type." Banks (1910, JAMA, 1574-1575) states that his *D. venustus* 1908 is identical with my *D. andersoni*, and this view is in harmony with the specimen which bears Banks' label

"type." How and whether this specimen changed from the Bureau of Entomology Collection to the Marx Collection is as yet not clear.

29. Judged from the specimen containing Banks' label "type," *D. venustus* n. sp. Banks, 1908, falls, therefore, as a homonym of *D. venustus* Marx in Neumann, 1897, and it is either a synonym or it is not a synonym. To determine this latter point, it is necessary to examine Stiles (1910) who reexamined the specimens (Marx 120 and 121 from New Mexico and Texas) of *D. venustus* Marx published by Neumann, 1897. Specimen 122 (mentioned by Neumann) and selected by Stiles as type is specifically distinct from the specimen which bears Banks' label as representing the type of *D. venustus* Banks, 1908. As this was the first selection of any specimen of the Marx-Neumann (1897) material as type, and as the Idaho material was not available as type, since it was not mentioned by Neumann (although Marx 121 from a mountain goat, at Soldier, Idaho, was examined by him), a comparison of the type specimens in question, namely, Marx 120 (type of *D. venustus* Marx in Neumann, 1897, as published by Stiles, 1910) with Marx No. 10 (type of *D. venustus* Banks, 1908, according to the label in Banks' handwriting, but not entirely in harmony with his correspondence) appears therefore to settle the question that nomenclatorially *D. venustus* 1908 is not absolutely (from point of view of type specimen) synonymous with *D. venustus* 1897. Accordingly, the name *D. venustus* n. sp. Banks, 1908, drops as a homonym.

30. It next becomes necessary to enquire into the valid name for the species represented by *D. venustus* n. sp. Banks, 1908 (*nec* Marx in Neumann, 1897) incriminated as vector of Rocky Mountain Spotted Fever.

31. The systematic history of this tick is indeed complicated, owing to the difficulties connected with specific determinations. It has been studied by Marx, Neumann, Banks, and Stiles, all four of whom were fairly familiar with the group. These specialists confused the species with: *D. occidentalis*, *D. venustus*, *D. electus*, and *D. reticulatus*. These various species were not all clearly and definitely defined from each other until 1910, although all four of the authors just mentioned, and other authors also, had at various times determined a number of specimens correctly.

32. Anderson collected in the Bitter Root Valley some ticks which Wilson & Chowning and Anderson had incriminated as the vector of the Rocky Mountain Spotted Fever. Stiles (in Anderson, 1903, 21) made a provisional determination of this material as *Dermacentor reticulatus*.

33. Stiles (1904 1(m), 1649 (363)) obtained from the Bitter Root Valley a considerable amount of tick material which agreed with the tick which Wilson & Chowning (1902, 1903, 1904) and Anderson (1903) had incriminated as the vector of Rocky Mountain Spotted Fever. Stiles states:

"6. The tick most common in the valley is a dermacentor which is very closely allied to *D. reticulatus*. The data now at my disposal indicates, however, that it represents a distinct species."

"7. These ticks are common on horses, cattle, and dogs, and more or less frequent on man, but there is nothing to indicate that a hibernating animal is necessary for their development; in fact, indications (seasonal distribution) are not entirely lacking that the spermophile forms a more or less accidental host for this species."

34. Later, Stiles (1905f, 7, 22, 24) in discussing his negative results as to the piroplasmic nature of the Rocky Mountain Spotted Fever, uses the new

name "*Dermacentor andersoni*" in referring to this tick which Wilson & Chowning (1902, 1903, 1904) and Anderson (1903) had incriminated as vector of the supposed *Piroplasma hominis*. Zoological characters are not cited and so far as this article is concerned, the name *Dermacentor andersoni* rests solely upon the geographic distribution of the tick and the earlier claims that this arachnoid is the vector of the disease.

35. Later, Stiles (1907, 10-12) presented to the Entomological Society of Washington drawings of *D. andersoni*, *D. venustus*, *D. occidentalis*, etc., demonstrating the differential characters on which the species in question are recognizable, but these names were not published in the Secretary's minutes of the meeting. Mr. Banks was present and discussed the paper.

36. After the meeting, Mr. Banks asked to examine some of the specimens and was invited to do so. For this purpose he visited my laboratory (exact date unknown, but between Jan. 10, 1907 and June 6, 1908). I placed before him the manuscript, drawings, and specimens, and a microscope; he used his own hand lens. Among the specimens placed before him were "Marx-120, 121, 122." Mr. Banks examined some of the drawings and specimens; as he was received as a guest he was free to do this.

37. Upon the publication of *D. venustus* n. sp. Banks, 1908, Stiles, in the hope of forestalling further confusion, published (1908m, 949) a short note giving some of the more important differential characters.

38. Later, Stiles (1910, 36-46) published his delayed manuscript, describing and figuring in detail *D. andersoni* Stiles (type No. 9467, from Woodman, Mont.) (giving *D. venustus* pars of Banks, 1908, as synonym) and *D. venustus* Marx, 1897, in Neumann, 1897 (type Marx 122 from Texas) giving *D. venustus* pars of Banks, 1908, as synonym).

DISCUSSION.—The present case, to my mind, is much less complicated than the argument submitted would indicate.

The facts appear to be as follows:

1. In 1897 G. Neumann (Mem. Soc. Zool. France, vol. 10, pp. 324-420) published a "Révision de la famille des Ixodidés," in which under the specific heading of *Dermacentor reticulatus* (Fabricius), up to that time known only from the Old World, he says on p. 365: "La Collection du Départ. of Agriculture de Washington et celle de la Smithsonian Institution en [*i. e.*, *D. reticulatus*] contiennent plusieurs mâles et femelles recueillies aussi en Californie, sur le Daim, et étiquetés par G. Marx *D. occidentalis*. D'autres proviennent de Texas et du Nouveau-Mexique et sont étiquetés *D. venustus*." There is no further reference to these specimens, and this is the first published reference to *Dermacentor venustus*. Although there is no description, the name is not a *nomem nudum*, since according to Opinion 53 it has a nomenclatorial status that cannot be ignored. The case is absolutely comparable, though not quite identical, with that of *Halicampus grayi*, quoted only in synonymy as being in the British Museum, but not described, regarding which Opinion 53 says that "there can be no question but that *Halicampus grayi* has been pub-

lished in connection with a bibliographic reference, and in connection with a description, and on this account the name must be considered as dating from 1856." As Opinion 53 is in force and consequently is part of the Code, it is clear that *Dermacontor venustus* as a published and available specific name dates from 1897. But it is also unidentifiable from the published data then available. Dr. Neumann himself apparently thought it the same as *reticulatus*, but he gives no data by which it can be determined from his publication whether he was right or wrong. The reference to certain localities can have no bearing, nor is there any indication that he referred to actual type specimens. Marx's type specimens may have been examined, or they may not, as far as contemporaneous published evidence is concerned.

The next appearance of the name in any publication is in 1908 when Banks (A Revision of the Ixodoidea, or Ticks, of the United States, June 6, 1908, p. 46, pl. 8, figs. 4, 5, 7) described *Dermacontor venustus* as a new species without reference to Marx's manuscript name of 1897 in Neumann. He mentions neither a type specimen, nor does he give any single type locality. He says: "Specimens come from various places in the West: Olympia, Yakima, Klikitat Valley, and Grand Coulee, Wash.; Fort Collins and Boulder, Colo.; Pecos and Las Cruces, N. Mex.; Bozeman, Mont.; Bridger Basin, Utah; Soldier, Idaho; and Texas (on sheep)." On page 48, under *D. occidentalis*, he says: "Neumann first considered *D. occidentalis* and *D. venustus* of Marx as identical with the European *D. reticulatus*. . . . When he described *D. occidentalis*, Neumann included with it *D. venustus* of the Marx manuscript. However, I have restricted the name to the form to which Marx applied it." This last sentence is not strictly correct. When Neumann described *D. reticulatus occidentalis*, which was done in January, 1905 (Arch. Parasitol., Paris, vol. 9, no. 2, p. 235), he did not mention *D. venustus* at all; he only recognized several ♂ and ♀ collected on "le Daim," California, and labeled *D. occidentalis* by G. Marx, as a distinguishable subspecies [variété] of the species *D. reticulatus*, in other words, in 1905 he recognized his species *D. reticulatus* of 1897, as a complex one including still the material which Marx had labeled *D. venustus*, and with the right of the first reviser he separated out and fixed the name of *D. occidentalis*. But he did nothing to *D. venustus*; he still kept it in the synonymy of *D. reticulatus*. Banks, however, in 1908, accepted Neumann's action as first reviser, as far as *D. occidentalis* is concerned (recognizing it however as full species), but went a step further and exercised his right as next reviser to segregate Marx's *D. venustus* out of the complex *D. reticulatus* of Neumann 1897. In the

D. venustus thus restricted, Banks included specimens from Washington, Colorado, New Mexico, Montana, Utah, Idaho, and Texas. No type locality, nor type is mentioned, as stated before. In the absence of definite type designation the presumption in 1908 is, therefore, that the *D. venustus* of 1908 and the one of 1897 are identical.

Later in the same year Dr. Stiles (Weekly Pub. Health Rep., vol. 23, pt. 2, nos. 27 to 52, July 3, 1908m, p. 949) briefly indicated that Banks' *D. venustus* of 1908 was still a specific complex, separating out from it, and for the first time diagnosing, the specimens from Montana as *Dermacentor andersoni* [*D. andersoni* Stiles 1905, *nomen nudum*]. Incidentally he also mentioned *D. venustus* as an allied species from Texas, but gave no characters and mentioned no type.

Up to that time there had been no published mention of type specimen or of the names having been tied down to any particular specimens, except in the case of *D. occidentalis*.

No further revision and subdivision of the complex took place until August, 1910, when Stiles' paper entitled "the taxonomic value of the microscopic structure of the stigmal plates in the tick genus *Dermacentor*" was published (Hyg. Lab. U. S. Publ. Health Mar. Hosp. Serv.). In this he undertook a final revision of the specific complex *D. reticulatus* as presented by Neumann in 1897. In this revision he described fully and figured *D. venustus* designating "Marx 122 in U. S. National Museum. Host, Sheep (*Ovis aries*) in Texas" as the type (holotype). As the final reviser of a complex group embracing specimens from a large number of localities, some of which had been variously named, he exercised his right to select the type for such components as had not already been so designated.

The case of *Dermacentor andersoni* seems to be simpler still.

Specimens of this form do not appear to have been known by Neumann in 1897, at least he does not mention Montana specimens as being among the material examined by him, and *D. andersoni* is consequently not involved in the revision of Neumann's *D. reticulatus* (of 1897). The name appears before 1908 only as a *nomen nudum* and consequently does not concern us until that year when it is briefly characterized by Stiles (Weekly Publ. Health Rep., vol. 23, pt. 2, Nos. 27 to 52, July 3, 1908m, p. 949) and said to be based on specimens from Montana. Specimens from the latter State were first mentioned by Banks in June, 1908, and by him included in his complex *D. venustus*. In 1910, a definite type specimen of *D. andersoni* was published by Stiles, viz., U. S. P. H. & M. H. S. 9467. This specimen is from Woodman, Montana; host, *Equus caballus*.

The subsequent discussion between Banks and Stiles as to what specimens in the museums were actually designated as types of *D. venustus*, but which had never been so designated in any publication, seems to me irrelevant.

The published record of the two forms and their gradual fixation nomenclatorially by the various revisers may be briefly summarized as follows:

D. VENUSTUS

- 1897. Component of the complex *D. reticulatus* Neumann (no type designation).
- 1908. Component of the complex *D. venustus* Banks (no type designation).
- 1910. Segregated from *D. venustus* Banks 1908 and type designated by Stiles: Marx No. 122.

D. ANDERSONI

- 1908. June. Montana specimens (not named) included in the complex *D. venustus* Banks (no type designation).
- 1910. August. Type designated by Stiles.

I am, therefore, of the opinion that the answer to Dr. W. Dwight Pierce's communication should be:

1. That the Commission as such is incompetent to express an Opinion as to the name of the spotted fever tick. It can only take cognizance of the systematic names which have been applied to the various forms mentioned by him, and decide as to their applicability under the Code as disclosed by the records before the Commission.

2. On basis of these records it appears that, assuming the taxonomic distinctness of these forms,

a. The name *Dermacentor venustus* Marx in Neumann 1897 belongs to a form with the specimen Marx No. 122, from Texas as holotype.

b. The name *Dermacentor andersoni* Stiles 1908 belongs to a form with specimen U. S. P. H. & M. H. S. 9467, from Woodman, Montana, as the holotype.

Opinion written by Stejneger.

Opinion concurred in by 11 Commissioners: Allen, Apstein, Bather, Loennberg, Handlirsch, Hoyle, D. S. Jordan, K. Jordan, Monticelli, Skinner, and Stejneger.

Opinion dissented from by two Commissioners: Horváth and Kolbe.

Horváth states: "Je n'accepte que la seconde partie de la proposition, celle qui se rapporte au nom de *Dermacentor andersoni* Stiles, 1908. En ce qui concerne la première partie de la proposition, l'auteur de *Dermacentor venustus* est, à mon avis, incontestablement Banks qui en a publié en 1908 la première description. *D. venustus* Marx in

Neumann 1897 est un *nomen nudum*, puisque ni Marx, ni Neumann n'en ont donné une description. Le principe statué par l'Opinion 4 et appliqué dans l'Opinion 53 est inadmissible et doit être rejeté comme tout-à-fait contraire aux lois fondamentales de la nomenclature zoologique."

Monticelli states: "I cannot agree with the *first* point of the opinion of Stejneger from which, according to my judgment, a contradiction results.

"As the Commission must, on the basis of the conclusions of the relator, determine the nomenclature of the two species of *Dermacentor* (as results from the *second* point of the same conclusions by the wide discussion of the case presented for the examination of the Commission), I think that the Commission cannot declare its incompetence to express an opinion on Dr. Pierce's question. I think, therefore, that the Commission could well give its opinion on the specific name of the species of *Dermacentor* which transmits 'spotted fever' to man.

"Because, having fixed the two specific names, *Dermacentor venustus* Marx, 1897, and *Dermacentor andersoni* Stiles, 1908, and having identified with these names all the other names that different authors have attributed to the ticks of 'spotted fever,' it seems to me that—from the elimination of the names by which the relator has arrived at the *second* point of his conclusions—the specific name of the *Dermacentor* that gives spotted fever logically should result.

"It only remains to identify which of the two species of *Dermacentor* is the intermediate host of the parasite of 'spotted fever.'

"2. I agree, however, to the second point of the conclusions of the relator."

Not voting, two Commissioners: Hartert, Stiles.

OPINION 79

CASE OF LAMARCK'S (1801A) SYSTÈME DES ANIMAUX
SANS VERTÈBRES

SUMMARY.—“Rigidly construed,” Lamarck’s (1801a) *Système des Animaux sans Vertèbres* is not to be accepted as designation of type species.

STATEMENT OF CASE.—Dr. J. Chester Bradley has submitted to the Commission the following question:

Is the *Système des Animaux sans Vertèbres* of Lamarck, 1801¹ to be accepted as designating types of genera?

In the work cited, Lamarck, after the description of each genus, cites at least one species, frequently two, which would at first sight appear to be mere examples and not construable as designated types.

But on p. viii he states: “Pour faire connoître d’une manière certaine les genres dont je donne ici les caractères, j’ai cité sous chacun d’eux une espèce connue, ou très-rarement plusieurs, et j’y ai joint quelques synonymes que je puis certifier; cela suffit pour me faire entendre.”

This work was not accepted by Rohwer² nor by Viereck³ in their careful attempts to fix the types of the genera of sawflies and of ichneumonwasps. It has been accepted in a paper by Morice & Durrant,⁴ but these authors accept several works that clearly do not fix generic types in the sense of the Code.

DISCUSSION.—In another Opinion (No. 81, on *Cimex*) the Commission has not interpreted this book by Lamarck as fixing types, and no new evidence is now presented which appears to warrant the reversal of this interpretation. In the view of the Commission, Lamarck cites a “known species, or very rarely several” as examples, in order to illustrate the genera, but rigidly construed, he does not fix the types.

¹Lamarck, Jean Baptiste Pierre Antoin de Monet *chevalier de*. *Système des animaux sans vertèbres, ou Tableau général des classes, des ordres et des genres de ces animaux* . . . Par J. B. Lamarck . . . Paris, Deterville, An ix—1801, viii, 452, p. fold. tables, 20 cm.

²Rohwer, Sievert Allen . . . II. The genotypes of the sawflies and woodwasps, or the superfamily *Tenthredinoidea*. By S. A. Rohwer . . . Washington, 1916, < Technical series, No. 20, part H., U. S. Department of Agriculture, Bureau of Entomology.

³Viereck, Henry Lorenz . . . Type species of the genera of ichneumonflies. By Henry L. Viereck . . . 1914, < Smithsonian Institution, U. S. National Museum, Bulletin 83.

⁴Morice, F. D. & John Hartley Durrant. The authorship and first publication of the “Jurinean” genera of Hymenoptera: Being a reprint of a long lost work by Panzer, with a translation into English, and introduction, and bibliographical and critical notes < Trans. Ent. Soc. Lond. 1914: 339-436.

This interpretation is supported by an examination of Lamarck's (1816b) *Hist. Nat. des Anim. sans Vertéb.*, in which he does not even cite certain species mentioned in 1801. For instance, in 1801, p. 293, he cites only *P. rufipes* under *Pentatoma*; if he had intended this as type designation, he would, presumably, have cited this species under *Pentatoma* in 1816b, 492-494, but he does not do so; he stated that *Pentatoma* contains a large number of species, of which he cites three: *acuminata*, *baccarum* and *prasina*.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Handlirsch, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stejneger, and Stiles.

Opinion dissented from by two Commissioners: Horváth, Dautzenberg.

Not voting, two Commissioners: Roule, Simon.

Dautzenberg says: "A l'époque où Lamarck a publié son *Système des Animaux sans Vertèbres*, on n'attachait pas à la fixation des types des genres l'importance ni la précision que nous lui attribuons aujourd'hui. En désignant pour chaque genre une espèce connue, accompagnée de références, 'afin de se faire bien entendre,' Lamarck a certainement voulu désigner ce que nous appelons aujourd'hui des *types*, aussi ne verrais-je aucun inconvénient en ce qui concerne les mollusques, à adopter pour *types* les espèces citées connue *exemples* dans le *Système des An. sans vert.*, car il ne s'agit, en somme que de deux mots différents, mais qui ont exactement la même signification."

OPINION 80

SUSPENSION OF RULES IN THE CASE OF HOLOTHURIA AND PHYSALIA

SUMMARY.—The Echinoderm genus *Holothuria* Linn., 1767, restr. Bruguière, 1791, type *H. tremula* 1767 = *H. tubulosa* 1790, and the Siphonophorae genus *Physalia* Lamarck, 1801, type *P. pelagica* 1801 = *Holothuria physalis* 1758, are hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—Pages 49 to 57 of Opinion 76 are accepted as statement of Case.

DISCUSSION.—Pages 49 to 57 of Opinion 76 are accepted as Discussion.

The fact that the suspension of the rules was under consideration for these names was duly published as follows: Science, 1917, v. 45, Feb. 2, p. 113; Nature, Lond., v. 98, 1916, Sept. 21, p. 49; Monit. Zool. Ital., 1917, v. 28 (11), p. 183.

The Secretary recommends that the Commission adopt the following action:

(1) Suspend the rules in the case of the generic names *Holothuria* and *Physalia*;

(2) Permanently reject *Holothuria* Linnaeus, 1758, type *H. physalis* 1758;

(3) Validate *Physalia* Lamarck, 1801, type *P. pelagica* 1801 (syn. *H. physalis* 1758);

(4) Accept *Holothuria* as dating from Linn., 1767a (type *H. tremula* 1767 = *H. tubulosa* 1790) as restricted by Bruguière, 1791, and despite the publication of *Holothuria* Linn., 1758 (rejected);

(5) This suspension is not to be construed as invalidating any specific name.

The grounds for said suspension are:

(a) In the judgment of the Commission, the strict application of the Règles to the names *Holothuria* and *Physalia* “will clearly result in greater confusion than uniformity”;

(b) The cases involve a transfer of generic names, almost universally accepted in the sense given above since 1791 (for *Holothuria*), and since 1801 (for *Physalia*), to genera in other groups in connection with which they have been used during more than 100 years by only a very few authors. Important supergeneric names, also of long standing, are involved.

(6) The Commission places on the Official List of Generic Names the name *Holothuria* Linn., 1767, type *H. tremula* 1767 = *H. tubulosa*

1790, as the correct name for a genus of Sea Cucumbers, and the generic name *Physalia* Lamarck, 1801, type *P. pelagica* 1801 = *Holothuria physalia* 1758, as the correct generic name for the Portuguese Man-of-War.

Opinion written by Stiles.

Opinion concurred in by 12 Commissioners: Apstein, Bather, Handlirsch, Horvath, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioners.

Not voting, three Commissioners: Dautzenberg, Hartert, Monticelli.

OPINION 81

THE GENOTYPE OF CIMEX, ACANTHIA, CLINOCORIS, AND
KLINOPHILOS

SUMMARY.—On basis of the premises before the Commission, the common bedbug of Europe, *Cimex lectularius*, is the genotype for *Cimex* 1758, *Acanthia* 1775, *Clinocoris* 1829, and *Klinophilos* 1899 (*Clinophilus* 1903), and its proper technical designation under the Rules is *Cimex lectularius*. *Cimex* Linn., 1758, type *C. lectularius* is hereby placed in the Official List of generic names.

PRESENTATION OF CASE.—Dr. W. Dwight Pierce has submitted the following case for opinion. (Additions by the Secretary are marked *):

The scientific name of the bedbug has proved one of the most confusing problems in entomological nomenclature. It appears to the writer that the proper name should be *Clinocoris lectularius* Linnaeus, as accepted by Girault, Kirkaldy, and Reuter, and used in some medical text books (Castellani and Chalmers).

In American literature it also passes under the generic names *Cimex* and *Acanthia*.

In 1758 Linnaeus (Syst. Nat., 10th edit., p. 441) described *Cimex* with 85 species, of which *lectularius* was first and *stockerus* second. The genus was described as having four wings, but *lectularius* is wingless and does not agree with the generic description. No type is designated by Linnaeus.

Dr. C. W. Stiles in 1907 (Proc. Ent. Soc. Wash., vol. 8, p. 67, 68) considers that *lectularius* must be considered type because of Linnaeus' rule to select the commonest and most medicinal species as type of his genera. Such a method of selection, it seems to me, would be valid if there were no definite designations of type preceding Dr. Stiles' paper. The evidence presented below is against the acceptance of Dr. Stiles' designation.

In 1775, Fabricius (Syst. Ent. p. 696) discusses *Cimex*, and includes 167 species with "*stockerus*" Linnaeus as the first species, and he describes (p. 693) *Acanthia* with 15 species, of which (*Cimex*) *lectularius* Linnaeus (= *Acanthia lectularia*) is first. This action by Fabricius definitely removes *lectularius* from *Cimex*. (*No type was designated.—C. W. S.)

In 1789, Oliver (Encycl. Meth., vol. 4, Intr., p. 25) reversed Fabricius' division of genera, and called *Acanthia* Fabricius "*Cimex*" (Punaise), and called *Cimex* Fabricius "*Pentatoma*." From this date begins the confusion.

In 1797, Latreille (*1796a,) Précis des Caractères, p. 85) in discussing *Acanthia* says, "Je ne rapporte à ce genre que les espèces de Fab. que l'on trouve ordinairement aux bords des eaux. Les autres appartiennent aux Genres Coré et Lygé." (*Latreille (1796a, 83) cites "*Cimex* Linn. . . . Punaise . . . s. *Pentatoma*, Oliv." No type is selected, no species mentioned.—C. W. S.)

Kirkaldy in 1899 (The Entomologist, vol. 32, p. 219) considers Latreille's remarks to definitely limit the genus *Acanthia* to *littoralis* and its allies. Accepting this interpretation of Latreille's action, we must concede that *lectularia* was definitely eliminated from *Acanthia* in 1797.

(*Cuvier, 1798a, 574-575 (Tableau élémentaire de l'histoire naturelle des animaux) says:

Les punaises (*Cimex*)

On les divise en

a. Acanthies (Mentions only "*C. lectularius*.")

b. Punaises proprement dites. (*Cimex* Fabr.) (4 sp., *lineatus*, *haemorrhoidalis*, *oleraceus*, *ornatus*.)

c. Corées. (*Corcus* Fabr.). (Mentions only *marginatus*.)

d. Lygées. (*Lygaeus* Fabr.). (2 sp.)

e. Gerres. (*Gerris* Fabr.)

f. Hydrometre. (*Hydrométra* Latr.) (Mentions only *stagnorum*.)

g. Reduves. (*Reduvius*.) (Mentions only *personatus*.)

(*The question arises whether the expression, "Punaises proprement dites (*Cimex* Fabr.)," when 4 species are cited, constitutes a restriction that affects the type designation. The Secretary is inclined to the view that even if this point were conceded, the type is not designated thereby either for *Acanthia* or for *Cimex*, and that while it might have been better under the circumstances to follow this division subsequent to 1798, we cannot alter the fact that this course was not uniformly followed. We must take the facts as they exist, not as they should or might have been.)

For the next few years we find the species in ever shifting positions, none of which can really be accepted if we view elimination as a legitimate process in limiting a generic concept.

Schellenburg in 1800 (*Cimicum Helvetiae* Genus, pp. 5, 6, 15, 16) in a monograph of the Cimicidae has both genera *Cimex* and *Acanthia*, and places *lectularia* in *Acanthia* (*but does not designate types).

(*Lamarck, 1801a (Syst. anim. sans vertèbres, pp. 293-294) adopts *Cimex* Linn. as genus, which he divides as follows:

"Corps ovale ou arrondi. (*Acanth.* Fab.)

"*Cimex lectularius*. Lin. *Acanthia lectu*—(p. 294) *laria*. Fab. Ent. 4, p. 67. Geoff. ins. 1, p. 434, n. 1. La punaise des lits.

"Cet insecte incommode et puant, n'a ni ailes ni élytres par un avortement qui se perpétue, et propage dans un état qui ressemble à celui de larve. Néanmoins sa classe et son genre sont déterminés par la considération de ses congénères.

"Corps oblong, un peu étroit. (*Ligaei*, Fab.)

"*Cimex equestris*. Lin. *Ligaeus equestris*. Fab. ent. 4, p. 147. *Climex*. Geoff. ins. 1, p. 442, no. 14.")

(*On page viii, Lamarck says: "Pour faire connoître d'une manière certaine les genres dont je donne ici les caractères, j'ai cité sous chacun d'eux une espèce connue, ou très rarement plusieurs, et j'y ai joint quelques synonymes que je puis certifier; cela suffit pour me faire entendre.")

(*Thus while Lamarck clearly intended *C. lectularius* to be considered as a *Cimex*, he recognized two subgroups (*Acanthia* and *Lygaeus*), placing *C. lectularius* in the subgroup *Acanthia*. If his remarks on page viii (see above) are to be interpreted as definite designation of genotypes for the genera in which only one species is cited, it would appear that *lectularius* is here designated type of *Acanthia*. Since, however, he did not name one of his subgroups as *Cimex* s. str., it would appear that either *Acanthia* or *Lygaeus* should be interpreted as the typical subgroup, hence as *Cimex* s. str., hence also that

either *lectularius* or *equestris* should be type of *Cimex*. As this point is not definite from the context, it must be concluded that "rigidly construed" (Art. 30g), Lamarck did not here designate type for *Cimex*.)

(*Linnaeus (1802, Turton Ed., Syst. Nat., pp. 608-702) divides *Cimex* into six groups (cf. subgenera) as follows: 1. *Cimex* (*Acanthia*) which includes *lectularius*, *littoralis* and many other species; 2. *Cimex* (*Cimex*) which includes *bidens* and many other species; and four other groups which do not influence the present problem, namely, 3. *Cimex* (*Lygacus*); 4. *Cimex* (*Gerris*); 5. *Cimex* (*Miris*); and 6. *Cimex* (*Reduvius*). Types are not cited for these groups, but it is to be noticed that both *lectularius* and *littoralis* are placed in *Acanthia*, and it is clear that a typical subgenus *Cimex* has been created, but as no type is designated this seems to leave the subject in the same status as did "Punaises proprement dites. (*Cimex* Fabr.)" of Cuvier, 1798a. So far as *Acanthia* is concerned, the status of affairs has reverted to that which existed in 1775.)

Fabricius in 1803 (Syst. Rhyng., p. 112-113, 155-179) treats both *Acanthia* and *Cimex* and limits *Acanthia* to *lectularia* and *hemiptera*. Kirkaldy (1899, The Entomologist, vol. 32, p. 220) is very positive in asserting that Fabricius in this work designates *bidens* L. as type of *Cimex*. It is true that *bidens* is the first Linnaean species included in the Fabrician concept of *Cimex*, but I cannot find a positive designation.¹

Latreille in 1804 (Hist. Nat. Crust. et Ins. p. 237, 240-244, 254-255) definitely states² on p. 237 that he reversed the Fabrician decisions and makes *lectularius* type of "punaise," which is his common name for *Cimex*, and on page 254-255 limits *Cimex* to *lectularius*. He places in *Acanthia*, *zosterac*, *littoralis* and four other species.

(*Dumeril, 1806, 264 (Zool. analytique) appears definitely to designate *lectularius* as type (by monotypy) of *Cimex*. The passage in question reads:

"2. Les punaises (*cimex*, Linne; *acanthia* Fab.) ont le corps ovale, très applati, cinq articles aux antennes, et le corcelet en croissant recevant la tête. On n'en a encore observé qu'une seule espèce, qui attaque pendant la nuit l'homme et certains oiseaux, en particulier les hirondelles.)

(*Dumeril (1806, 262) adopts *Acanthia* for species, not mentioned by name, which live on banks of bodies of water, on bark of trees, and on fruits.)

(*Latreille, 1807 (Gen. Crust. et insect), p. 136 mentions only *C. lectularius* under *Cimex*, and cites (p. 142) *A. maculata*, *Lygacus saltatorius*, *Salda littoralis*, *S. zosterac*, and *S. striata*, under *Acanthia*.)

Latreille in 1810a (Consid. Gen., p. 433) in the list which is considered as designating types by an Opinion (*No. 11) of the International Commission, designates *lectularia* as type of *Acanthia*, thus contradicting his positive state-

¹ (*Fabricius, 1803, 112, cites *lectularia* (chef de file) and *hemiptera* as belonging to *Acanthia*, and p. 155-170 he cites 123 species (without type designation (See Art. 30r) for *Cimex*); (*bidens* is chef de file).—C. W. S.)

² P. 237: "Il nous a paru plus convenable de restituer à cet insecte le nom sous lequel il est généralement connu, et de le faire servir de type au genre punaise" (**Cimex*, p. 254), dont il est jusqu'à présent la seule espèce bien connue."

ments of 1797, 1804, and even on previous pages in the same book. He refers *Cimex* to *Pentatoma*.¹

(*On p. 434 he cites "*Lygaeus saltatorius*" as type of "*Acanthia*" (*Acanthia*).)

(*Lamarck 1816b, 501-503, clearly designates *lectularius* as type for *Cimex*, for though he cites two species (*lectularius* and *hirundinis*) the second (*hirundinis*) is not an original (1758) species, and he says "Par les nombreuses distinctions établies, le genre: punaise (*Cimex*) se trouve presque (cf. *hirundinis*) réduit à la seule espèce (*lectularius*) qu'on eut souhaite ne jamais connaître." Under *Acanthia* he includes *maculata*, *littoralis*, and *zosterac*, but without type designation.)

Fallen in 1818 (*Cinices Sveciae*, p. 17, 27) has 18 species in *Cimex* and limits *Acanthia* to *lectularia*. (*Not a type designation—C. W.S.)

In 1825 Saint Fageau and Serville (*Encycl. Meth.*, vol. 10, p. 250-251) follow Olivier in placing *lectularius* as the only (*positive) species in *Cimex*.

Fallen in 1829 (*Hem. Svec.*, p. 140, 142) limits *Acanthia* to *lectularia* but suggests *Clinocoris*² as a better generic name. This is the first time that *lectularia* has had a bona-fide location since 1797. (*Fallen includes *bidens* and 17 other species in *Cimex*.—C. W.S.)

(*The publication by Fallen, 1829, brings up a very complicated combination of nomenclatorial possibilities.)

(* (a). It is clear that *Clinocoris* (ἡ κλίνηα couch; ὁ κόρις, a bug) 1829 is *Acanthia* (ἀκανθίας, a prickly thing) renamed, hence (Art. 30f, rule) "the type of either, when established, becomes ipso facto type of the other.")

(* (b). The first definite type designation for *Acanthia* was *Lygaeus saltatorius* (by Latreille, 1810a, 434), but as this was not an original species for *Acanthia* it is not available as type.)

1904: *A. lectularia* is apparently accepted as type by Kirkaldy, 1904, *Nature*, 465; 1905; and by Reuter, 1908, *Ent. mon. Mag.* 27.

1912: *Cimex lectularius* is definitely designated as type by Castellani & Chalmers, 1913, 637 and 1920, 763.

1917: *C. lectularius* is definitely accepted as type by Van Duzee, 1917, 285.

(*The only species (See dissenting view by Stejneger in Discussion) which can possibly come into theoretical consideration as genotype both of *Acanthia* and of *Clinocoris* are: *A. lectularia* and *A. clavicornis*; all theoretical arguments are in favor of accepting *lectularia* which is the only one of the two species which has ever been definitely cited by name in connection with *Clinocoris* and which is the first and only species ever designated as type of *Clinocoris*. Accordingly, unless it can be shown that *clavicornis* has been designated type of *Acanthia*, *lectularia* remains type of *Clinocoris* and therefore type of *Acanthia* also.)

¹ (*Latreille, 1810a, p. 257 says: "G. 324, Punaise, *Cimex*." and on p. 433 he says: "Punaise, *Acanthia lectularia*." Thus *lectularius* is designated type of *Cimex*.)

² *Acanthia* renamed. "Nomen generis ab ακανθά (spina) desumsit Cel. Fabricius, verisimiliter propter punctionem insecti. Forsitan convenientius judicabitur nomen *Clinocoris* (Germanice Bettwanze). 1. *A. lectularia*."

(*Curtis, 1835 (Brit. Ent. vol. 12, pl. 548, 569) says: 548: "*Acanthia* . . . Type of the Genus, *Cimex littoralis* Linn." and 569: "*Cimex* . . . Type of the Genus, *Cimex lectularius* Linn.")

(*Westwood, 1840, vol. 2, Synopsis, p. 119, designates *saltatoria* Linn. as type of *Acanthia* . . . , and p. 120 *C. lectularius* as type of *Cimex*; but *saltatoria* is not cited as an original species by Fabricius in 1775.)

In 1843 Amyot & Serville (Hist. Nat. Ins. Hemiptères, p. 310-313) give a good discussion of the case in hand, stating that Fabricius by dividing *Cimex* into three genera definitely removed *lectularius* to *Acanthia*. They attribute all our present difficulties to Olivier's (1789) arbitrary reversal of the Fabrician genera calling *Acanthia* Fabr. "*Cimex*," and *Cimex* L., Fabr. "*Pentatoma*." They further recite Latreille's reversals of opinion in 1797 and later, first accepting *Acanthia* for *lectularia* and later *Cimex*. They treat *Acanthia* with only *lectularia*.

(*Reuter (Wien. Ent. Zeitung, 1882, 301-306) discusses the case in detail and accepts *lectularius* as type of *Cimex*; on basis of Fabricius (1803) he accepts *littoralis* as type of *Acanthia*. He argues that Fabricius (1803) definitely designated types by his method of comparison (chef de file).)

In 1899, Kirkaldy (The Entomologist, p. 219) overlooking *Clinocoris*, and considering the bedbug without a generic name, proposed *Klinophilos* (*tod. *Cimex lectularius*, and he took *bidens* Linn., as type of *Cimex*.—C. W. S.).

(*Blanford (1903, Nature, 200) changes *Klinophilos* to *Clinophilus* and adopts *lectularius* as type of *Cimex* on basis of the Linnaean rules. Kirkaldy (1904, Nature, 465), replying to Blanford, claims that (on basis of elimination) *lectularius* is excluded from being taken as type of *Cimex* and that Latreille (1797) restricted *Acanthia* to "*littoralis* and its congeners"; Kirkaldy accepts *Clinocoris*, instead of his *Klinophilos*, for the bedbug. Blanford (1904, Nature, 464), replies that the generic name was taken from a species in the Linnaean genus that was called *Cimex* in classical Latin. The only species that can be clearly identified with the Latin name appears to be *C. lectularius* L. and he accepts this as type of *Cimex* on basis of the Linnaean rules.)

In 1905, Kirkaldy (The Entomologist, vol. 38, p. 76, 78) withdrew *Klinophilos*, accepting *Clinocoris*, and gave further proof on pp. 304-306.

In 1908, Reuter (Ent. mon. Mag., vol. 44, p. 27) reviewed the situation and agreed¹ with Kirkaldy (1899) that *littoralis* should be type of *Acanthia*, *bidens* type of *Cimex*, and *lectularius* of *Clinocoris*.

Kirkaldy, 1909 (Cat. Hemiptera (Heteroptera) vol. 1, p. xxvi-xxviii), again insists that Fabricius 1803 named *bidens* as type of *Cimex*, but says that Latreille 1804 named (*zosterac* Latr.) = *saltatorius* L. as the type of *Acanthia*.

(*Apstein, 1915a, 158, (Nomina Conservanda) designates *lectularius* as type of *Cimex*.)

(*Van Duzee (1917, Catalog. Hemipt., 285) accepts *lectularius* as type of *Cimex* on basis of Lamarck (1801a, 293), Latreille (1810a, 257, 433), Laport (1832, 51) and Westwood (1840), all of whom he quotes as "names *lectularius* type." He also accepts *lectularia* as type of *Acanthia* on basis of Fabr. (1803,

¹Reuter quotes (in part erroneously) Kirkaldy, 1899, p. 219, as follows: "I therefore see no alternative to adopting the name *Acanthia* for *littoralis* (*& c." in original of K. but omitted by R.—C. W. S.) as Kirkaldy has already done in his monograph of the palaearctic species."

112). The Secretary does not accept Laport (1832, 51) and Fabr. (1803, 112) as definite type designation.)

As I see the synonymy at present, it may be summarized as follows:

1. *Cimex* Linnaeus 1758, type *bidens* L. selected according to Kirkaldy by Fabricius 1803, but at least by Kirkaldy 1899. The genus is limited by removal of *Acanthia* Fabricius 1775 thus taking away *lectularius*. Accepted as above by Reuter 1908.

2. *Acanthia* Fabricius 1775, type *littoralis* L. selected by Latreille 1804 according to Reuter 1908. The genus was limited to exclude *lectularia* by Latreille 1797.

3. *Clinocoris* Fallen 1829—monotype *lectularia* L. The genus is offered as substitute for *Acanthia* Fabricius 1803, Fallen 1829 (not Fabricius 1775, Latreille 1797). Accepted by Kirkaldy 1899, 1905, 1909; Reuter 1908; Girault, 1905.

SYNONYMS:

(a) *Acanthia* Schellenberg, 1800; Fabricius, 1803, type by elimination *lectularius*; Latreille, type by designation, 1810; Fallen monotype, 1818; Fallen monotype, 1829; Douglass and Scott 1865.

(b) *Cimex* Latreille, 1804, type by designation *lectularius*; Stiles, 1907 (designation); E. Saunders, 1892; Lethierry & Severin, 1896.

(c) *Klinophilos* Kirkaldy, 1899, type by original designation *lectularius*.

DISCUSSION.—The case submitted is one more to be added to the many cases of generic confusion due to the fact that so many authors have been content with division of genera, but have ignored the principle of genotype fixation. If authors had followed the Linnæan code in this case, and had, in accordance with said code,¹ adopted *C. lectularius* as type of *Cimex* the confusion would have been automatically avoided.

The premises have been set forth by Dr. Pierce in the "Presentation of Case." In company with Dr. Pierce the Secretary has verified the references, but his interpretation of certain of the citations differs somewhat from that presented by Dr. Pierce. This case of nomenclatures has been discussed in more or less detail by a considerable number of authors and their views seem to be hopelessly at variance. No opinion the Commission adopts can count upon universal approval since so many complications, giving rise to different views, come into consideration. One principle develops in the case (see *Clinocoris*) which has never been before the Commission heretofore, which seems to be an entirely new principle, and yet one which seems to be clearly covered by the rules.

In addition to the literature cited by Dr. Pierce, the Secretary has consulted a number of other references which are briefly summarized

¹ The particular Linnæan rule in question reads "Si genus receptum, secundum jus naturæ et artis, in plura dirimi debet, tum nomen antea commune manebit vulgatissimæ et officinali plantæ."

or cited herewith. As the Secretary sees the points at issue, they involve four generic names (*Cimex*, *Acanthia*, *Clinocoris*, and *Klinophilos*) and may be summarized as follows:

1. *Cimex* Linn., 1758a: Two species (*lectularius* and *bidens*) have been selected as type.

A. In the original publication the type is not determined under Art. 30—

(a) Original designation, (b) Use of *typicus* or *typus*, (c) Monotypy, or (d) Absolute tautonymy.

B. Neither species thus far designated as type (*lectularius* and *bidens*) is excluded under Art. 30(e).

C. No complication arises under Art. 30(f), renaming of genus.

D. In case of doubt, Recommendations (h to t), the following points are to be held in mind under Art. 30:

1758: *C. lectularius* (*Cimex* of Pliny) is on the preferred list under (h) the Linnaean rule, (n) best described, best figured, best known, and easily obtained species, (p) parasitic on man, (q) probably actually studied by author, (t) page precedence.

1775: *C. lectularius* would not be on the preferred list because (k) elimination by: Fabricius, 1775, 693; 1787, 280; 1794, 67; 1803, 112.—Cuvier, 1798.—Schellenberg, 1800, 15.—Turton, 1802.—Fallen, 1818, 19; 1829.—Burmeister, 1837a, 596.—Amyot & Serville, 1843.—Douglass & Scott, 1868, 278.—Claus, 1885a.—Leunis, 1886a.—R. Blanchard, 1890a, 473.—Railliet, 1895a, 820.—Kirkaldy, 1899; 1904, 465; 1905.—Reuter, 1908, 27.—And many others.

A. bidens seems to be on the preferred list under (k) because it remained in *Cimex* after *A. lectularia* was eliminated (1775) and (o) De Candolle's rule.

Apparently neither *A. lectularia* nor *A. bidens* has preference, one over the other, under (i) Virtual tautonymy, (j) non-exotic, (r) sexually mature vs. larvae, (m) name *communis*, etc., (s) Linnaeus did not declare in favor of the first species rule.

1803: *C. bidens* is on the preferred list under (r) as chef de file by Fabricius, 1803, 155.

E. "Rigidly construed" (Art. 30g) the following references are to be interpreted as citation of illustrative or characteristic species rather than as selection of type, or at best are debatable.

1764: *C. lectularius* by: Brunnich, 1764, 82 (see also p. 56).—Olivier, 1789, 25.—Lamarck, 1801a, 293.—Latreille, 1804, 254; 1807, 136.—St. Fagean & Serville, 1825.—DeLaporte, 1832, 51.—Stal, 1873, 104.—And many others.

1834: *C. juniperinus* by: Burmeister, 1837a, 597.

F. "Rigidly construed" (Art. 30g) the following references are undebatably definite designations of genotypes:

1804: *C. lectularius* by: Latreille, 1804, 254; 1810a, 257, 433.—Dumeril, 1806, 264.—Lamarck, 1816b, 502.—Curtis, 1835, 569.—Westwood, 1840, 120.—Pascoe, 1868, 94.—Reuter, 1882, 301.—Blanford, 1903, 200; 1904, 464.—Stiles, 1907, 67.—Apstein, 1915a, 158.—Van Duzee, 1917, 285.

1899: *C. bidens* by: Kirkaldy, 1899, 220; 1909, xxviii (on basis of Fabr. 1803), 4.—Reuter 1908.

G. CONCLUSION.—*C. lectularius* was the first original species definitely designated (1804) as type of *Cimex* in harmony with Art. 30 and this designation is not subject to change.

2. *Acanthia* Fabr. 1775: Four species (*A. saltatoria*, *A. littoralis*, *A. zosteræ*, and *A. lectularia*) have been selected as type.

A. In the original publication, the type is not determined under Art. 30 (a, b, c, d).

B. Under Art. 30 (e, a), *A. saltatoria* is definitely excluded as type since it was not an original species. *A. zosteræ* is not cited as an original species, and it was further considered later to be a synonym of *saltatoria*; accordingly, *A. zosteræ* is definitely excluded as type.

C. A distinct complication arises because of the renaming of genus. *Acanthia* was renamed *Clinocoris* in 1829, hence under Art. 30(f) the type of either, when established, becomes, ipso facto, type of the other. As a natural result, no species which is excluded as type of one of these genera can come into consideration as type of the other, and as *A. littoralis* was definitely excluded from *Clinocoris* by the founder of the generic name, this species cannot (under Art. 30e, a) become type of *Clinocoris*, hence (Art. 30f),

dating with 1829 it is definitely excluded from consideration in selecting (Art. 30g) the type of *Acanthia*.

D. In case of doubt, the following points are to be held in mind:

1775: *A. lectularia* is on the preferred list under (h) the Linnean rule, (n) best known, etc., (p) parasitic on man, (q) probably actually studied by author, and (t) page precedence.

1789: *A. lectularia* would not be on the preferred list because of (k) elimination by: Olivier, 1789, 25.—Dumeril, 1806, 262.—Latreille, 1804; 1807; 1810a.—Lamarck, 1816b, 502.—St. Fagean & Serville, 1825.—DeLaporte, 1832, 51.—Curtis, 1835.—Westwood, 1840.—Stal, 1873, 104.—Reuter, 1882, 301; 1908, 27.—Kirkaldy, 1899; 1904; 1905.—Blanford, 1903; 1904.—Stiles, 1907.—Apstein, 1917a.—Van Duzee, 1917.—And many others.

1803: *A. littoralis* would not be on the preferred list because of (k) elimination by: Fabricius, 1803, 115, to *Salda*.—Fallen, 1829, 71.

A. littoralis seems to be on the preferred list under (o) DeCandolle's rule.

Apparently neither *A. lectularia* nor *A. littoralis* is on the preferred list under (i) Virtual tautonymy, (l) Sexually mature *vs.* larvae, (m) name *communis*, etc., (s) Fabricius did not declare in favor of the first species rule.

1803: *A. lectularia* is on the preferred list under (r) as chef de file by Fabricius, 1803, 112.

E. "Rigidly construed" (Art. 30g) the following references, are to be interpreted as citation of illustrative or characteristic species rather than selection of type, or at best are debatable.

1796: *A. littoralis* group by: Latreille, 1796a, 185; 1804, 240.—Dumeril, 1806.—Lamarck, 1816b, 508.—Kirkaldy, 1904, 465.

1798: *A. lectularia* by: Cuvier, 1798a, 574.—Schellenberg, 1800, 15.—Lamarck, 1801a, 293.—Fallen, 1818, 17, 27; ? 1829, 140.—Burmeister, 1837a, 596.—Amyot & Serville, 1843, 310.—Douglass & Scott, 1868, 278.—Claus, 1885a.—Leunis, 1886a.—Knauer, 1887a,

339.—R. Blanchard, 1890a, 473.—Railliet, 1895a, 820.—And many others.

1832: *A. saltatoria* by: DeLaporte, 1832, 52.

F. "Rigidly construed" (Art. 30g) the following references are undebatably definite designations of genotypes.

1810: *A. saltatoria* by: Latreille, 1810a, 259, 434.—Westwood, 1840, 119.—Kirkaldy, 1909, xxviii (on basis of Latreille, 1804).

1835: *A. littoralis* by: Curtis, 1835, 548.—Reuter, 1882, 301 (on basis of Fabr. 1803); 1908, 26-27 (on basis of Kirkaldy, 1899, 218).

1868: *A. zosteræ* by: Pascoe, 1868, 94-95 (on basis of Latr. 1802; 1804).—Kirkaldy, 1909, xxviii (so. *saltatorius*) (on basis of Latreille, 1804) (chef de file of *Salda* by Fabr., 1803, 113).

1917: *A. lectularia* by: Van Duzee, 1917, 285 (on basis of Fabr., 1803, 112).

G. CONCLUSION: *A. lectularia* is type because it is the first and only original species (Art. 30e, a) of both *Acanthia* and *Clinocoris* which has been validly designated as type either of *Acanthia* or of *Clinocoris* (see C).

3. *Clinocoris* (Petersson ? in) Fallen, 1829, *Acanthia* Fabricius renamed hence both must have the same genotype. *C. lectularius* is the only species which has been definitely designated as type.

A. On basis of the original publication it is possibly a debatable point but very doubtful whether the type is determined under (a) original designation, but it is not determined under (b, c, or d).

B. *C. lectularius* is available under Art. 30 (e).

C. Complications arise under Art. 30 (f) as *Clinocoris* is *Acanthia* renamed. The following 7 of the 15 original species of *Acanthia* are definitely excluded (under 30 e, a) from consideration as type of *Clinocoris*, since Fallen (1829) himself definitely excluded them by not including them in *Clinocoris* and by classifying them elsewhere: *A. betulæ* (in *Aradus*), *A. cardui* (in *Tingis*), *A. corticalis* (in *Aradus*), *A. laevis* (in *Aradus*), *A. littoralis* (in *Salda*), *A. pyri* (in *Tingis*), *A. rugosa* (in *Aradus*).

C'. Commissioner Stejneger holds another view as follows: The fact brought out by Dr. Stiles in the rewritten Opinion, that Fallen, in 1829, simultaneously with suggesting *Clinocoris* as a substitute for *Acanthia*, placed *A. littoralis*

of Fabricius in another genus, *Salda*, can have no influence on Curtis's right, in 1835, to designate it as type of *Acanthia* Fabricius.

As shown above, *Acanthia*, up to the year 1829, had not any valid type designation, and was consequently still polytypic. Fallen in this year did not alter the status of *Acanthia*; he only mentioned *lectularia* as one of the species, but gave a substitute name, *Clinocoris*. Consequently, *Clinocoris* at that date was equally polytypic, and must share the fate of *Acanthia*. It now appears that on the same occasion he also relegated *Acanthia littoralis* to another genus, *Salda*. The question then arises: Does this action of Fallen in placing *A. littoralis* in another genus nullify Curtis' explicit designation, in 1835, of *littoralis* as the type of *Acanthia*? Is there anything in Code Art. 30 which makes this action of Curtis invalid? These questions, it seems to me, have already been answered in Opinion 62 which specifically provides that Article 30 does not even exclude type species of other genera from consideration in the subsequent selection of the type of a given genus. The fact that Fallen removed *littoralis* to another genus, *Salda*, consequently does not bar its designation by Curtis in 1835, since even if he had made it the type of *Salda* (and so he may have done for all I know) that fact would not have invalidated the designation of *littoralis* as type of *Acanthia*. Fallen, in 1829, did not make a new genus *Clinocoris*, he only suggested a new name for an old genus, and this substitute name must ipso facto have the same designated type. If *littoralis* is the type of *Salda*, *Salda* also becomes a synonym of *Acanthia*.

D. In case of doubt, the following points are to be held in mind under Recommendations (h to t) of Art. 30:

1829: *C. lectularius* is on the preferred list under (h, n, p, q, and t).

1829: *C. lectularius* (known as κόρις by Aristophanes; κόρις ἀπὸ κλίνης by Discorides), is to be selected ("unless such preference is strongly contraindicated by other factors") under (i) Virtual tautonymy: ἡ κλίνη, a couch; *lectulus*, a little bed; ὁ κόρις, a bug.

? 1829: *Acanthia lectularia* by Monotypy, by Fallen, 1829, 141. This is open to debate. Certain it is that this is the species which Fallen had especially in mind. A difference of opinion seems, however, inevitable, as

theoretical arguments exist on both sides. Hence, rigidly construed, this designation or alleged designation might perhaps best be tabled.

1829: *C. lectularius* is on the preferred list under (j) as a non-exotic species, when compared with the following 6 of the 8 remaining original species (not mentioned above in C) of *Acanthia*; *A. crassipes* (Dresden); *A. lunata* (India); *A. rhombea* (Africa); *A. serrata* (hab. unknown); *A. serratulae* (England); *A. umbraculata* (Hafniae).

1829: *Acanthia clavicornis*, the one remaining original species of *Acanthia* which comes into theoretical competition has nothing (under Art. 30) to give it preference over *A. lectularia*.

E. "Rigidly construed" (Art. 30g), it is not clear that Girault (1905, 61, 117) designates the genotype.

F. "Rigidly construed" (Art. 30g), the following references are undebatably definite designations of genotype.

1904: *C. lectularius* by: Kirkaldy, 1904, 465;
1905.—Reuter, 1908, 27.—Castellani & Chalmers, 1913,
637; 1920, 763.—Van Duzee, 1917, 285.

G. CONCLUSION.—*C. lectularius* was the first and only original species of *Clinocoris* definitely designated as type of *Clinocoris* in harmony with Art. 30 and this designation is not subject to change.

4. *Klinophilos* Kirkaldy, 1899 = *Clinophilus* Blanford, 1903.
1899: *lectularius* type by monotypy (Art. 30c).

As soon as one departs from the foregoing citations to which the Rules can be strictly applied one encounters citations that are subject to interpretations that are diametrically opposed to each other and one becomes involved in the uncertainties of elimination, retransfer, and reeliminations, and in the vagaries involved in the citation of a single species as example.

Accordingly, the Secretary recommends that the Commission adopt as its Opinion the following:

1. On basis of the premises before the Commission, the common bed-bug of Europe, *Cimex lectularius* Linn., 1758, is genotype for *Cimex* Linn., 1758, *Acanthia* Fabr., 1775, *Clinocoris* Petersson or Fallen, 1829, and *Klinophilos* Kirkaldy, 1899 (= *Clinophilus* Blanford, 1903), and its proper designation under the rules is *Cimex lectularius*.

2. *Cimex* Linn., 1758, type *C. lectularius*, is hereby placed in the Official List of generic names.

Commissioner Stejneger presents the following dissenting conclusion which is presented for vote as alternative Opinion:

I am therefore constrained to maintain that my original conclusions were correct as formulated in my first vote to the effect:

(1) That *lectularius* Linn., 1758, is the type of *Cimex*; (2) that *Klinophilus* of Kirkaldy, 1899, is a synonym of *Cimex* with the same type; (3) that *Acanthia* of Fabricius, 1775, has for type *Cimex littoralis*; (4) that *Clinocoris* of Fallen, 1829, is a synonym of *Acanthia* with the same type.

Opinion¹ written by Stiles.

Opinion as written by Stiles concurred in by ten Commissioners: Allen, Handlirsch, Hartert, Horvath, Hoyle, Jordan (D. S.), Kolbe, Monticelli, Skinner, Stiles.

Opinion as modified by Stejneger (but accepting *lectularius* as type of *Cimex*) concurred in by one (or two?) Commissioners: Stejneger, ?Bather.

Opinion dissented from by one Commissioner: Jordan (K.).

Not voting on opinion as now written (see, however, footnote, p. 31) five Commissioners: Apstein (accepts *lectularius* as type of *Cimex*), R. Blanchard (deceased; prior to death he accepted *lectularius* as type of *Cimex*) Dautzenberg (accepts *lectularius* as type of *Cimex*), Roule, Simon.

The essential point is that 14 Commissioners have concurred in accepting *lectularius* as type of *Cimex* as against one Commissioner who dissents from this view.

Bather adds: "I do not accept Stiles' argument, p. 26, C. I am doubtful as to the validity of all of Stejneger's remarks, p. 28, C'. I incline to think that this is a case in which one should frankly give up argument and decide either on ground of practical convenience or by drawing lots. From first to last an amount of time must have been wasted on this bed-bug enough to decide the fate of six alleged murderers. Is it worth while?"

Handlirsch adds: "Wenn *Cimex* in dem Sinne '*lectularius*' beibehalten wird und *Salda* für *littoralis* etc., so fällt endlich der Name

¹ The Opinion as written in Circular Letter No. 36 was:

Concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch, Hartert, Horvath (part), Hoyle, Jordan (D.S.), Monticelli, Skinner, Stejneger (part), Stiles.

Dissented from (in part) by 2 Commissioners: Horvath, Stejneger. Not voting, 4 Commissioners: Jordan (K), Kolbe, Roule, Simon.

Acanthia, der so viel Confusion verursacht hat, und alle Zweifel sind endgültig beseitigt. Das its ja schliesslich doch die Hauptsache."

Hoyle adds: "On reading this re-statement of the case, the following points occur to me: (1) That the action of Linné in placing '*lectularius*' as first species in '*Cimex*,' taken in conjunction with his method of selecting types is almost sufficient to make '*lectularius*' the type of '*Cimex*,' though perhaps it does not justify the phrase 'rigidly construed.' (2) However this may be, it seems to me that Latreille (1804) definitely makes '*lectularius*' the type of '*Cimex*' and this action overrules any preceding subdivisions and eliminations. I, therefore, see no reason to reverse my previous opinion."

Jordan (D. S.) adds: "I should have taken Stejneger's view, but not insistently as the case is excessively complex."

Jordan (K.) adds: "I. As a matter of principle the original diagnosis of a genus should be considered first guide in determining the type species of the genus. If the original author, by the wording of his diagnosis, indicates from which kind of species the diagnosis is taken, this indication has priority over all subsequent ones. *E. g.*, Hübner describes his genus *Heraclia* (Lepid.) as having 'glossy green black' forerings, and places into this genus three species, of which two agree with the description, while the third does not. Obviously, the type of the genus is one of the 'glossy green black' species. Similarly, *Cimex* is diagnosed by Linnaeus as having four wings; his conception of a true *Cimex*, therefore, was a four-winged insect. The bed-bug does not conform with this conception. Therefore, I cannot accept *lectularius* as type of *Cimex*. But something might be said in favor of discarding priority (or suspending the rules) in this important case."

"II. *Acanthia* Fabr., 1775, was based on a number of species inclusive of the bed-bug. The diagnosis of the genus seems to cover all species, being very general (and faulty). In 1794 Fabricius gave a fuller diagnosis of *Acanthia*, stating 'elytris coriaceis, planis, apice membranaceis longitudine abdominis. . .', but he, nevertheless, leaves *lectularius* in this *Acanthia*. Latreille in 1797 limits *Acanthia* to the species found near water. Both Fabricius in 1794 and Latreille in 1797 place the bed-bug outside the concept of true *Acanthia*, and I submit that from 1794 *lectularius* had no valid generic name.

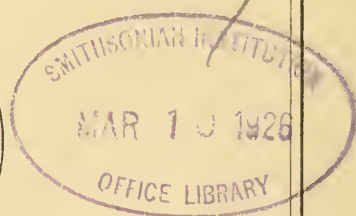
"III. In 1803 Fabricius reversed his conception of 1794 and restricted *Acanthia* to the bed-bugs. He was not entitled to do so. This concept of 1803 and not the *Acanthia* Fabr., 1775, was renamed *Clinocoris* by Fallen in 1829. I consider *Clinocoris* to be the first valid generic term for *lectularius*."

SMITHSONIAN MISCELLANEOUS COLLECTIONS

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OPINIONS RENDERED BY THE INTERNATIONAL
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NOMENCLATURE

OPINIONS 82 TO 90



(PUBLICATION 2830)

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OPINION 82

SUSPENSION OF RULES FOR *MUSCA* LINNAEUS, 1758A, TYPE *M. DOMESTICA*

SUMMARY.—By authority of the power conferred on the Commission by the 9th International Congress of Zoology to suspend the Règles as applied to any given case where in its judgment the strict application of the Règles will clearly result in greater confusion than uniformity, Article 30 is hereby suspended in the case of *Musca* Linnaeus, 1758, and *Musca domestica* Linnaeus, 1758, is hereby designated as type of *Musca* without prejudice to other cases.

STATEMENT OF CASE.—The Commission has received two separate requests bearing upon the genus *Musca* Linn., 1758, and one of these considers also the genus *Calliphora* Desvoidy, 1830. The more complete statement of the case is that submitted by W. Dwight Pierce and reads as follows (Additions by the Secretary are marked *):

THE CASES OF *MUSCA DOMESTICA* LINNAEUS, AND *CALLIPHORA* *VOMITORIA* LINNAEUS

ORIGINAL DESCRIPTION OF *Musca*

1. Linnaeus, Carolus, 1758, *Systema Naturae*, 10th edit.
Genus No. 222 *Musca*, pp. 580-601, 100 species. Includes No. 52, *vomitoria*, p. 595; No. 54, *domestica*, p. 596.

SUBSEQUENT REFERENCES TO *Musca*

2. Geoffroy, Et. L., 1762, *Histoire abrégée des Insectes*. Vol. 2.
Genus *Musca*, pp. 483-538. Includes No. 59 (*vomitoria*), No. 66 (*domestica*).

3. Fabricius, Johann Christian, 1775, *Systema Entomologiae*.
Genus No. 173, *Musca*, pp. 773-787. Includes No. 5, *domestica* (p. 774), No. 13, *vomitioria* (p. 776).
4. DeGeer, Charles, 1776, *Mémoires pour servir à l'Histoire des Insectes*.
Genus No. 69, *La Mouche, Musca*. The genus contains in Famille 2, No. 4, *vomitioria* (pp. 57-60), and No. 10, *domestica* (pp. 71-78).
5. Fabricius, J. C., 1781, *Species Insectorum*, vol. 2.
Genus 176, *Musca* (pp. 435-455). No. 7, *domestica*; No. 17, *vomitioria*.
6. Fabricius, J. C., 1787, *Mantissa Insectorum*, vol. 2.
Genus 182, *Musca* (pp. 342-353). No. 9, *domestica*; No. 19, *vomitioria*.
7. Fabricius, J. C., 1794, *Entomologiae Systematica*.
Genus 233, *Musca* (pp. 312-361). No. 11, *domestica*; No. 25, *vomitioria*.
- 7a. Lamarck, 1801a, 310-311 gives 2 species (1) Antennes à soie plumeuse, **Musca domestica* L. (2) Antennes à soie nue, p. 311 **Musca grossa* Linn. Fab.
8. Latreille, P. A., 1805 (An. xiii), *Histoire Naturelle, Générale et Particulière des Crustacés et des Insectes*, vol. 14.
Genus DXXXII*, *Mouche. Musca* (pp. 380-381). No. 1, *vomitioria*; No. 3, *domestica*.
9. Fabricius, J. C., 1805, *Systema Antiliatorum*.
Genus 65, *Musca* (pp. 283-308). No. 18, *domestica*; No. 34, *vomitioria*.
- *9a. Dumeril, 1806, 282.
Genus *Musca*. "10. Les mouches (*musca*, Linn.) sont les seules espèces qui aient le poil latéral des antennes plumeux comme la mouche domestique, et qui s'éloignent d'ailleurs de tous les genres précédens."

PERIOD IN WHICH TYPE DESIGNATIONS APPEAR

10. Latreille, Pierre André, 1810, *Considérations Générales sur l'Ordre Naturel des Animaux*.
Genus 694, *Mouche. Musca* (p. 400). In "Table des Genres avec l'indication de l'espèce qui leur sert de type," p. 444 appears, *Mouche, Musca vomitioria*, F. This in accordance with Opinion No. 11 of the International Commission is type. [* On the assumption that *Musca vomitioria* F. includes *M. vomitioria* L.—C. W. S.]
11. Fallen, Carolus, Jr., 1820, 1823, *Monographia Muscidum Sveciac*.
Genus *Musca* begins on p. 36 (1820). No. 22, *vomitioria* (p. 47, 1821); No. 26, *domestica* (p. 49, 1823).
12. Meigen, Johann Wilhelm, 1826, *Systematische Beschreibung der bekannte europäischen zweiflügeligen Insekten*. Theil 5.
Genus CLVI. *Musca* (pp. 49-80). No. 21, *vomitioria* (p. 60); No. 31, *domestica* (p. 67-69).
13. Robineau-Desvoidy, J. B., 1830, *Essai sur les Myodaires*. On p. 373, "Les Muscides, qui ont le *Musca domestica* et le *M. vomitioria* (Linn.) pour types," etc.
Genus XII, *Musca*, with 13 species (pp. 394-399). No. 10, *domestica* (p. 398). On p. 433, *Calliphora*, n. g. including 17 species. "Ce genre a pour type le *Musca vomitioria* (Linn.)."

14. Macquart, J., 1834, Insectes Diptères du Nord de la France, Athéricères. Genus *Mouche*, *Musca* (p. 19). On pp. 19, 20. "Ce genre dans lequel Linnée comprenait non seulement l'immense famille des Muscides, mais encore les Syrphides, etc. . . . , est arrivé, par l'effet des divisions . . . , à ne contenir que la *Mouche domestique* et quelques espèces voisines. Cet insecte, a été considéré comme le type de tant d'autres, et dont le nom si vulgaire, depuis la plus haute antiquité, a reçu des acceptions si variées, paraît maintenant dégagé de tout ce qui lui est étranger."
Genus *Calliphora* (pp. 23-26) includes as first species, *vomitória*.
15. Westwood, John O., 1840, an introduction to the Modern Classification of Insects. *Calliphora*. Type designated as *vomitória* (p. 141, see also 569). *Musca*. Type designated as *domestica* (p. 141, see also 570).
16. Coquillett, D. W., 1910. The type species of North American genera of Diptera. Proc. U. S. Nat. Mus., vol. 37, No. 1719. On page 517, "*Calliphora* Desvoidy, Essai Myod., p. 433, 1830, 17 species. Type, *Musca erythrocephala* Meigen, by original designation (as *vomitória* Linnaeus)."
On p. 571, "*Musca* Linnaeus, Syst. Nat., 19th ed., p. 589, 1758, 100 species. Type, *Musca domestica* Linnaeus, the fifty-fourth species, by designation of Macquart, Ins. Dipt. Nord. France, Athér., 1834, p. 20."
17. Townsend, C. H. T., 1915. Correction of the misuse of the generic name *Musca*, with description of two new genera. Journ. Wash. Acad. Sci., vol. 5, No. 12, pp. 433-436.
Musca Linnaeus, type *vomitória* F. = L. (designated by Latreille 1810, p. 444).
Calliphora R.-D., 1830, type *vomitória* R.-D. nec L. = *M. erythrocephala* Meigen, which is congeneric with *vomitória* L.
Promusca Townsend, n. gen., type by original designation, *domestica* L.

DISCUSSION BY DR. PIERCE.—There is no question from above data, if they present the entire case, that *Musca* has for its type *vomitória* L., and that Townsend was completely in accord with the International Rules and Opinions in erecting a new genus for *domestica*.

From the standpoint purely of cold-blooded legal procedure there is no other way to look at the question.

On the other hand the Congress of Zoology has left open a method of procedure whereby common usage can be made to supersede the strict application of the Law of Priority.

There can be no question, after looking over the above references and the thousands of publications on both of these extremely important medicinal species, that it would be a great misfortune to the public at large, the entomological and the medical professions, to adopt the legally correct combinations proposed by Dr. Townsend. *Musca domestica* has been known from time of antiquity, and has never been known otherwise since the establishment of the binomial nomenclature in 1758. Very few insects or even animals have such a reputation. Only one man (Townsend), whose departure from custom has not been accepted, has ventured to upset the stability of this name, for we can hardly assume that Latreille expected *domestica* to be separated from *Musca* when he made his designation of *vomitória*, if indeed he intended it as a designation in our present sense of the word. Many believe he meant only example.

Furthermore the genus *Calliphora* has found a place in medical and entomological literature with *vomitioria* as its type, and has remained stable for almost a century.

Musca domestica is one of the few insect species known the world around to scientists and general public alike. The public at least will never know it otherwise. The scientific fraternity will accept with the greatest reluctance the chaos-making change. It is therefore that the following request is made of the International Commission on Zoological Nomenclature.

ACTION REQUESTED.—The signers hereby formally make application of the International Commission on Zoological Nomenclature to place the combinations *Musca domestica* Linnaeus and *Calliphora vomitioria* Linnaeus in the list of Nomina Conservanda, thus definitely establishing *domestica* L. as type of *Musca*, and *vomitioria* L. as the type of *Calliphora*. Robineau-Desvoidy definitely stated that *vomitioria* Linnaeus was type of *Calliphora*, although he personally studied a closely related species, possibly identical, which he mistook for Linnaeus' species.

This request is made on the ground of practical utility, universal usage, and an unbroken history of consistent usage (with only two exceptions as above noted), in the face of a perfectly legal procedure which causes confusion and innumerable difficulties.

Doctor Pierce's request for suspension of the rules is signed also by 22 additional entomologists as follows: L. O. Howard, W. D. Hunter, W. Dwight Pierce, F. C. Bishopp, R. H. Hutchison, U. C. Loftin, W. E. Dove, Henry Fox, W. J. Phillips, B. R. Leach, F. L. Simanton, A. J. Ackerman, J. B. Gill, Dwight Isely, Thomas E. Snyder, F. R. Cole, Jacob Kotinsky, C. H. Popenoe, F. H. Chittenden, W. B. Wood, A. C. Baker, W. R. Walton, A. L. Quaintance.

DISCUSSION BY SECRETARY.—In accordance with the provisions governing the use of the Plenary Power by the Commission, the Secretary gave formal notice to the Zoological Profession that these cases would come before the Commission for consideration. See (1) *Monitore Zoologico Italiano* 1917, v. 28, 183; (2) *Ann. Mag. Hist. No.* 114, 1917, v. 19, 484; (3) *Zool. Anz.*, Feb. 13, 1923, p. 46. These notices have resulted in communications reaching the Secretary as follows:

Favorable to suspension: E. E. Austen, British Museum; A. Brooker Klugh, Ontario; Chr. Aurivillius, Stockholm; E. P. Felt, State Entomologist, N. Y.; Sociedad Entomológica de España; Sociedad (Society of Minerva) Zaragonezade Ciencias Naturales; Academia de Ciencias de Zaragoza; Professors Andres (Paroma), Corti (Pavia), Berlese (Firenze), Giglio-Tos (Torino), Griffini (Bologna); Commissione de Nomenclatura Zoologica (Unione Zoologica Italiana) composed of Professors Monticelli, Ficalbi, Rosa, Ghiga; Will Lundbeck (Copenhagen); Mortensen (Copenhagen, who states

that all of his colleagues, including Lundbeck, agree), Aldrich (West Lafayette), Cockerell (Boulder).

Opposed to suspension: Professors Bezzi (Torino); W. L. McAtee, J. R. Mallock, Remington Kellogg (U. S. Biological Survey); and Silvestri (Portici).

Letters from England indicate that English entomologists consider that Lamarck in 1801 determined *Musca domestica* as type of *Musca*. This view however is not in accordance with Opinion 79 (C. L. 50).

A very extensive correspondence on the foregoing proposition has reached the Secretary. From a strict standpoint of classification the evidence available in respect to the possible identity of *Promusca* 1915, type *M. domestica*, *Conostoma* 1801, type *Ascaris conostoma* = larva of ?*M. domestica* and *Conosoma* 1802, type *Ascaris conosoma* = larva of ?*M. domestica*, tends to eliminate *Conostoma* and *Conosoma* from consideration, thus apparently resulting in the adoption of *Promusca* for *M. domestica* unless the rules are suspended under the Plenary Power authorization. And for the purpose of recommendation to the Commission, the Secretary adopts as his premise, based on the evidence before him, the frank statement by the appellants (entomologists) that under the rules, *Musca* has for its type *M. vomitoria* Linn. [cf. Latreille's "*Musca vomitoria* F."] and that Townsend acted in accordance with the rules when he proposed a new generic name for *M. domestica*. In making recommendation on this case to the Commission, the Secretary is influenced by his professional experience not only as a zoologist familiar with zoological and medical literature, but also as a public health officer, who has been very intimately identified with the legal aspects of applied zoology and with the campaigns looking toward the control of the fly nuisance through the cooperation of the laity. In the opinion of the Secretary a strict application of the Rules of Nomenclature in the case of *M. domestica* would result in confusion not only in the literature of Systematic Entomology but also in the literature of Applied Entomology, General Zoology, Public Health, Sanitation, and Law, and it would be probably a half century, if not longer, before the literature of these various phases of the subject could be harmonized in compliance with the present Rules of Nomenclature. The Secretary is persuaded that the Zoological profession could not justify itself in insisting upon a strict application of the rules in this particular case and that a strict application would produce greater confusion than uniformity. Accordingly, the Secretary recommends that: By authority of the power conferred on the Commission by the 9th International Con-

gress of Zoology to suspend the Règles as applied to any given case where in its judgment the strict application of the Règles will clearly result in greater confusion than uniformity, Article 30 is hereby suspended in the case of *Musca* Linnaeus, 1758, and *Musca domestica* Linnaeus, 1758, is hereby designated as type of *Musca*, without prejudice to other cases.

Opinion prepared by Stiles.

Opinion concurred in by 13 Commissioners: Apstein, Bather, Handlirsch, Horvath, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 2 Commissioners: Dautzenberg, Hartert.

Commissioner Jordan (D. S.) states: "The Plenary Power can and should be used not in clear-cut cases of priority, but when in case of early authors, either side is arguable, and deviation from current nomenclature would lead to confusion rather than clarity. For early writers had no conception of genotypes and used the genus as a 'pigeon-hole.' We might adopt the rule that we will accept current names, unless the reason for change is clear-cut and above reasonable cavil."

Commissioner Jordan (K.) states: "May I draw your attention to the following points?"

"Under 'Discussion' it is stated that *Musca* has for its type *vomitoria* L. According to the data given by you, Latreille 1810 selected *vomitoria* F. as type, and Townsend identified this *vomitoria* F. with *vomitoria* L. That is not an identification generally accepted. Fabricius consistently describes his *vomitoria* as having the frons 'fulva'; Latreille calls the frons 'roussâtre.' Linnaeus in F. Suec. expressly says that *mortuorum* differs from *vomitoria* . . . frons inter oculos, una cum antennis et ore, albo aurata sit ceu membrana, quod in sequenti (= *vomitoria*) non obtinet.

"Anyhow, European specialists past and present maintain that *vomitoria* of Fabricius is not *vomitoria* L. To me it seems at best doubtful which actual species Latreille meant.

"On the other hand, Macquart was quite definite in making *domestica* the type of *Musca*. In these circumstances a suspension of the rules appears to me a wrong move. It is inopportune to suspend the rules in face of the fact that we have definite facts, statements by Robineau with regard to *Calliphora* and by Macquart with regard to *Musca* and *Lucilia*, while Latreille's action is indefinite, because it leaves us in doubt about the actual species selected.

"Under No. 10 of the statement of the case it is said that 'This in accordance with Opinion No. 11 of the Intern. Commission is type.' This statement is liable to mislead those Commissioners who are unaware that *vomitoria* F. and *vomitoria* L. are not clearly the same insects. The attention of the Commissioners should have been drawn to this divergence of opinion among Dipterists, i. e., the data given by Townsend do not represent the entire case.

"The case of *Musca* has been submitted to the Entomological Committee on Nomenclature and a few prominent Dipterists. The Committee expresses the opinion that

"(1) Latreille's selection of *vomitoria* Fabr. as genotype of *Musca* leaves it doubtful whether he meant one of the original 100 species or one which was not among them, and

"(2) Macquart in 1834 designated *domestica* as type of *Musca*. It follows that a suspension of the Rules is unnecessary.

"Professor Bezzi is in favor of *domestica* being considered type of *Musca*.

"In order to arrive at unanimity with regard to the genotype of *Musca*, it would be advisable to add to Commissioner Stejneger's amendment after '*Musca* Linnaeus 1758' the words 'without prejudicing any other case.' The suspension of the Rules is tantamount to saying that *vomitoria* F. is *vomitoria* L. This decision could then be quoted as a precedent in other cases where the species is likewise doubtful."

OPINION 83

ACANTHIZA PYRRHOPYGIA VIGORS AND HORSFIELD, 1827, VERSUS
ACANTHIZA PYRRHOPYGIA GOULD, 1848

SUMMARY.—The principle of the Rule of Homonyms is that any properly published identical name of later date is "stillborn and cannot be brought to life." *Acanthiza pyrrhopygia* Vigors and Horsfield, 1827, invalidates *Acanthiza pyrrhopygia* Gould, 1848.

STATEMENT OF CASE.—A. J. Campbell, Box Hill, Victoria, Australia, presents the following case for opinion:

Does *Acanthiza pyrrhopygia* Gould ("Birds of Australia," vol. III., pl. 58, 1848) stand? (Type specimen No. 17595, in Academy of Sciences, Philadelphia.)

The name *pyrrhopygia* is not a homonym (of *Acanthiza pyrrhopygia* Vigors and Horsfield, *Trans. Linn. Soc.*, vol. XV., p. 227, 1827) according to Article 35, that is, the same name for another "species of the same genus."

The intention of Articles 34 and 35 is clearly to prevent confusion such as might arise by having the same designation, or name-label for two different birds (other than the same species). Plainly there should not be an *Acanthiza pyrrhopygia* of 1827 and another *Acanthiza pyrrhopygia* of 1848 (different species).

Gould changed the word *Acanthiza* into *Hylacola* but did not alter the specific name *pyrrhopygia* belonging to the original name-label. Therefore, the identical name *pyrrhopygia* of Vigors and Horsfield is accounted for being still in use for the bird described by them (now a *Hylacola*). As Gould's *pyrrhopygia* was another name-label given to a true *Acanthiza*, it could not be one and the same name used by Vigors and Horsfield and therefore the article does not apply.

Again, as *Acanthiza pyrrhopygia* of Vigors and Horsfield has not been in use since 1842 and *Acanthiza pyrrhopygia* of Gould has been in common usage since 1848, it is evident that no confusion whatever resulted and the article does not apply.

The International Code was founded primarily on the Strickland Code (1842); Rule 10 of the latter Code reads: "A name should be changed which has been proposed for some other genus in zoology, or for some other species in the same genus when still retained for such genus, or species."

Opinion of a Barrister-at-Law: *Acanthiza pyrrhopygia* Gould, all turns on what is a homonym and in what cases it must be rejected. A homonym is "one and the same name for two different things." If that were all, and every homonym is to be rejected, Gould's *Acanthiza pyrrhopygia* would fall, for it and Vigor's and Horsfield's are the same name for two different birds. But by Article 35 it is not every homonym which is to be rejected, but only such a specific name as has previously been used for another species of the same genus. Now, *Acanthiza pyrrhopygia* had not been used for another species of *Acanthiza* before Gould used it, though it had been used for a species of a genus which is now conceded not to be an *Acanthiza*, or because it is generically separate, i. e., *Hylacola*. So, unless it is to be argued that *Hylacola* and

Acanthiza are of the same genus, or that though they are not, the words "the same," in Article 35, mean "which has been at some time regarded, by anyone, as the same" (and that is not what the article says, the article clearly contemplating identity in fact)—unless it can be so argued, Gould's name is good and stands, as in my considered opinion it does.

DISCUSSION.—Generic concepts change from generation to generation, from year to year, and from individual to individual. The generic concept of *Taenia* Linn., 1758, now covers three genera which are usually classified in two different orders. Article 35 does not designate any particular generation, decade, or individual as basis for "the same genus," hence it includes "the same genus" (as, for instance, the one known as *Taenia*) in the concept of any or of all generations, decades, or individuals. That this is the logical interpretation of Article 35 becomes obvious from Article 36, which in citing a typical example (*Taenia ovilla* 1790 and 1878) states "*Taenia ovilla*, 1878, is suppressed as a homonym, and can never again be used: It was stillborn and cannot be brought to life, even when the species is placed in another genus (*Thysanosoma*)". When *Taenia ovilla*, 1878, was suppressed, the conception of *Taenia* had changed very radically from that which existed in 1790; still this case is cited in the Rules as a typical example. *Acanthiza pyrrhopygia* 1827 and 1848 represent a case of homonymy identical in principle with that of *Taenia ovilla* 1790 and 1878. *A. pyrrhopygia* 1848 was "stillborn" and cannot be brought to life under the Rules.

Any other interpretation of the Rule of Homonyms would lead to a situation surrounded with uncertainty and resulting in unnecessary changes in specific combinations. For instance—

Assume that in 1890 Professor X considered *T. ovilla* 1878 as generically distinct from *T. ovilla* 1790, but that *ovilla* at that date (1890) had not been suppressed; and that as *ovilla* 1878 was available in the genus (*Thysanosoma*) which in his conception was distinct from *Taenia*, he introduced and continued to use the specific name.

Assume, further, that in 1891 Professor Y considered *Taenia* and *Thysanosoma* as one and the same genus and that under the Rules he suppressed *ovilla* 1878 because of *ovilla* 1790; he would then use (with his generic concept) both a generic name (*Taenia*) and a specific name (*giardi*) for one and the same species for which Professor X (with his generic concept) would use another generic name (*Thysanosoma*) and another specific name (*ovilla* 1878). Thus, one and the same species (*ovilla* 1878=*giardi* 1879) would have two different names according to the concept of the two authors, and since *ovilla* 1878 was not suppressed in *Taenia* until 1891, it would still be valid

in *Thysanosoma* because the transfer had been made prior to the suppression.

The principle of the Rule of Homonyms is that any properly published identical name of later date is "stillborn and cannot be brought to life."

Opinion prepared by Stiles.

Opinion concurred in by 12 Commissioners: Apstein, Bather, Hartert, Horvath, Hoyle, D. S. Jordan, K. Jordan, Kolbe, Loennberg, Skinner, Stejneger, and Stiles.

Opinion dissented from by one Commissioner: Handlirsch.

Not voting, two Commissioners: Dautzenberg and Monticelli.

Commissioner K. Jordan says: "This is the current interpretation of the above Rule. My vote is not a vote on the merits of that Rule."

Commissioner Hartert states that he concurs: *i. e.*, that *Acanthiza pyrrhopygia* 1848 is stillborn, because there is already an *A. p.* of 1827.

Commissioner Bather states: "I think it would be as well to state that Gould in 1842 (Proc. Zool. Soc. 1842, p. 135) founded the new genus *Hylacola* with *Acanthiza pyrrhopygia* Vig. & Horsf. as genotype.

"Mr. Campbell raises a point that is really not quite clear in Article 35 of the Code. To cover it the wording should be emended by the addition after the words "of the same genus" of "or at any previous time published as belonging to the same genus." I am not sure whether one ought to include all previous transferences of a species to other genera; that opens up rather a terrifying vista. If not, then the word "published" should be qualified by "originally."

"I think, when cases of this kind arise, that the Commission should prepare an amendment to the rules, instead of leaving zoologists to struggle with a mass of "Opinions." Or, at least, the opinion should state the broad principle, and the special case should be introduced only as an illustration of it.

"Consequently, I suggest that the second sentence of the Summary as now phrased should be put first, and that instead of "*the* identical name of" it should read "*any* identical name of later date is."

"Could you not put this to the Commission?"

Note by Secretary: Commissioner Bather's suggested change is an editorial matter and has been complied with.

OPINION 84

TREMATODE, CESTODE, AND ACANTHOCEPHALA NAMES PLACED IN
THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: TREMATODA: *Dicrocoelium*, *Fasciola*, *Gastrodiscus*, *Heterophyes*. CESTODA: *Darwinca*, *Dipylidium*, *Echinococcus*, *Taenia*. ACANTHOCEPHALA: *Gigantorhynchus*.

STATEMENT OF CASE.—In the Proceedings of the Ninth International Congress on Zoology at Monaco (published 1914), pp. 858-859, the Commission published 11 generic names for Trematoda, 5 for Cestoda and 1 for Acanthocephala, which were under consideration for adoption in the Official List of Generic Names.

The Secretary to the Commission (see p. 892 of the Proceedings of the Ninth International Congress on Zoology) was asked if it would be agreeable to him to re-submit the names in question to sub-committees of specialists, before they were formally approved. His reply was that the suggestion was entirely agreeable, and he withdrew his request for formal approval of this list.

In addition to publication in the Proceedings of the Congress at Monaco, these names have been made public by publication in the following places:

Bull. Soc. Zool. France, 1915, Oct. 30, vol. 40, p. 87.

Nature, 1911, Nov. 23, vol. 88, p. 111.

Science, 1912, Jan. 26, vol. 35, p. 146.

Zoologischer Anzeiger, 1912, Jan. 26, vol. 35, p. 146.

The names were also included in Circular Letter No. 1 from the Secretary's office, and submitted to approximately 350 zoologists and zoological institutions of various kinds in the Argentine, Australia, Brazil, Canada, Denmark, Holland, India, Japan, Mexico, New Zealand, Norway, Philippine Islands, Porto Rico, Russia, Sweden, Switzerland and the United States. Twenty copies were sent to each member of the Commission for distribution especially in his own country, *i. e.*, Austria, England, France, Germany, Italy, United States, Wales.

Eleven lists were returned with no action taken, hence the persons returning them come under paragraph 4 of Circular Letter No. 1, that is to say, they have no opinion upon the matter either one way or the other, and accordingly the question as to the adoption or rejection of the names is immaterial to them. The eleven lists in question came from the following sources: Biological Staff of Princeton University, per E. G. Conklin; R. P. Cowles; A. G. Mayer; A. E. Lambert; Department of Zoology, Indiana University, per A. G. Henn; H. L. Wieman; E. L. Rice; D. S. Jordan; H. D. Reed; H. F. Nachtrieb; R. Blanchard.

Twenty-five (25) persons expressed opinions on the names; some on all of the names, and others only on names with which they are best acquainted. In no case was any objection or question raised to any of the names included in this Opinion 84. The 25 persons in question were: J. F. Abbott; A. A.

Andrews; A. M. Banta; T. D. A. Cockerell; ——— Collin; C. B. Davenport; Maurice C. Hall; S. F. Harmer; Albert Hassall; W. A. Herdman; L. Joubin; C. A. Kofoid; H. Kolbe; G. R. LaRue; C. E. McClung; E. C. McDonald; H. F. Perkins; H. S. Pratt; B. H. Ransom; R. I. Raymond; Oscar Riddle; J. W. Scott; H. J. Van Cleave; L. D. Wharton; H. V. Wilson.

In July, 1915, the names included in this Opinion 84 were submitted to the members of the International Commission on Medical Zoology (Parasitology), as Circular Letter No. 10, with the statement that unless all papers were returned before approximately October 1915, the results would be tabulated and submitted to the International Commission on Zoological Nomenclature for final action. No reply has been received to Circular Letter No. 10 in regard to said names.

Not a single objection of any kind appears to have reached the Secretary's office in respect to the following names:

TREMATODA:

Dicrocoelium Dujardin, 1845a, 391, type *lanccatum* = *lanceolatum* [= ? *dendriticum* sub judice].

Fasciola Linnaeus, 1758a, 644, 648-649, type *hepatica*.

Gastrodiscus Leuckart in Cobbold, 1877e, 233-239, type *sonsinoi* [seu *sonsinoi* teste Blanchard].

Heterophyes Cobbold, 1866a, 6, type *aegyptiaca* = *heterophyes*.

CESTODA:

Davainea R. Blanchard & Railliet, in R. Bl., 1891t, 428-440, type *proglottina* (in chickens; France).

Dipylidium Leuckart, 1863a, 400, type *caninum* (in dogs; Europe).

Echinococcus Rudolphi, 1801a, 52-53, type *granulosus* (in sheep; Europe).

Taenia Linnaeus, 1758a, 819-820, type *solium* (in *Homo*; Europe).

ACANTHOCEPHALA:

Gigantorhynchus Hamann, 1892d, 196, type *echinodiscus* (in *Myrmecophaga jubata*, *M. bivittata*; Brazil).

DISCUSSION.—Every name is omitted from final list, to which any Commissioner in final vote raised any question. Accordingly the final vote in the Commission is unanimous. In view of the foregoing premises the generic names in the foregoing list are placed in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by 12 Commissioners: Allen, Apstein, Bather, Hartert, Horvath, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Monticelli, Skinner, and Stiles.

Opinion dissented from by no Commissioner.

Not voting, 3 Commissioners: Loennberg, Dautzenberg, Stejneger.

OPINION 85

NINETY-EIGHT GENERIC NAMES IN CRUSTACEA PLACED IN THE
OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: CRUSTACEA: *Acmacopleura*, *Asthenognathus*, *Bathyplox*, *Camptandrium*, *Camptoplax*, *Catoptrus*, *Ceratoplax*, *Chasmagnathus*, *Chasmocarcinus*, *Clistocoeloma*, *Cyrtograpsus*, *Dissodactylus*, *Durckheimia*, *Epixanthus*, *Euchiropus*, *Eucrate*, *Eucratodes*, *Eucratopsis*, *Euryetisus*, *Euryplax*, *Eurytium*, *Fabia*, *Galene*, *Geryon*, *Glyptograpsus*, *Glyptoplax*, *Gomeza*, *Goneplax*, *Halimede*, *Helice*, *Hephthopelta*, *Hexapus*, *Holometopus*, *Holothuriophilus*, *Homalaspis*, *Lachnopus*, *Leptodius*, *Liagore*, *Libystes*, *Liomera*, *Lipæsthesius*, *Litocheira*, *Lophopanopeus*, *Lophopilumnus*, *Lybia*, *Melybia*, *Metasesarma*, *Metopocarcinus*, *Micropanope*, *Notonyx*, *Ocdiplax*, *Ommatocarcinus*, *Opisthopus*, *Oryphoxanthus*, *Panoplax*, *Paragalene*, *Parapanope*, *Parapleuraphrycoides*, *Paraxanthus*, *Percnon*, *Perigrapsus*, *Pilumnoides*, *Pilumnus*, *Pinnaxodes*, *Pinnixa*, *Pinnotherelia*, *Pinnotheres*, *Planes*, *Platychiropus*, *Platypilumnus*, *Platyranthus*, *Polydectus*, *Prionoplax*, *Pseudocarcinus*, *Pseudopinnixa*, *Pseudorhombila*, *Psopheticus*, *Ptychognathus*, *Pyxidognathus*, *Rhithropanopeus*, *Rhizopa*, *Ruppellioides*, *Sarmatium*, *Scalopidia*, *Scleroplax*, *Speocarcinus*, *Sphaerozius*, *Tetraxanthus*, *Tetrias*, *Thaumastoplax*, *Utica*, *Varuna*, *Xanthasia*, *Xanthodius*, *Xenophthalmodes*, *Xenophthalmus*, *Zosimus*, *Zozymodes*.

STATEMENT OF CASE.—In Circular Letter No. 40 dated November 1917 and mailed to approximately 350 zoologists and zoological laboratories and institutions, the Secretary gave notice that 101 generic names in Crustacea had been studied by Miss Mary J. Rathbun, Secretary of the Advisory Commission of Nomenclature of Crustacea, with a view to their possible inclusion in the Official List of Generic Names. She has since withdrawn the name *Pelucus* on ground of subjective synonymy. Miss Rathbun considers that the remaining names are nomenclatorially correct and valid under the Code. In addition to votes from the Commission, only 12 responses have been received, as follows:

(a) Leon J. Cole, Philip P. Calvert, E. A. Goldman, R. C. McGregor, John Neuman, and Thomas R. R. Stebbing raised no objection to any name but did not specifically vote in favor of the names.

(b) F. Doflein, M. W. Lyon, Jr., Carlos Moreira (votes on Brazilian names only), W. D. Pierce (votes on only part of names), and Dr. Franz Poche (with reservation as respects application of Art. 30g of the Code to the names), vote in favor of the names.

(c) Wm. H. Dall raises a question as to *Aratus* 1853 in view of *Arata* 1784.

The Secretary has stricken from the list, without prejudice, the names *Aratus* (because of the question raised by Dr. Dall) and *Sesarma* (because of

a difference of technical opinion between Miss Rathbun and Commissioner Apstein as respects genotype).

The following names receiving a majority vote in Commission, and to which no objection of any kind appears to have reached the Secretary's office, are accordingly placed hereby on the Official List of Generic Names:

- Acmacoppleura* Stimpson, 1858, 105, Proc. Acad. Nat. Sci. Phila., v. 10, type *A. parvula* Stimpson, 1858.
- Asthenognathus* Stimpson, 1858, 107, Proc. Acad. Nat. Sci. Phila. v. 10, type *A. inaequipes* Stimpson, 1858.
- Bathyplox* A. Milne-Edwards, 1880, 16, Bull. Mus. Comp. Zoöl., v. 8, Dec. 29, type *B. typhlus* A. Milne-Edwards, 1880.
- Camptandrium* Stimpson, 1858, 106, Proc. Acad. Nat. Sci., Phila., v. 10, type *C. scindentatum* Stimpson, 1858.
- Camptoplax* Miers, 1884, 239, Crust. "Alert," type *C. coppingeri* Miers, 1884.
- Catoptrus* A. Milne-Edwards, 1870 [82] no pagination, Ann. Sci. Nat. (5), v. 13, Art. 2, type *C. nitidus* A. Milne-Edwards, 1870.
- Ceratoplax* Stimpson, 1858, 96, Proc. Acad. Nat. Sci., Phila., v. 10, type *C. ciliatus* Stimpson, 1858 = *ciliata*.
- Chasmagnathus* de Haan, 1833, 5; 1835, 27, Fauna Japon., type *C. convexus* = *Ocypode* (*Chasmagnathus*) *convexa* de Haan, 1835.
- Chasmocarcinus* Rathbun, 1898, 284, Bull. Lab. Nat. Hist. State Univ. Iowa, v. 4, type *C. typicus* Rathbun, 1898.
- Clistococcoma* A. Milne-Edwards, 1873, 310, Nouv. Arch. Mus. Hist. Nat., Paris, v. 9, type *C. balansae* A. Milne-Edwards, 1873.
- Cyrtograpsus* Dana, 1851, 247, 250, Proc. Acad. Nat. Sci., Phila., v. 5, type *C. angulatus* Dana, 1851.
- Dissodactylus* Smith, 1870, 172, Trans. Conn. Acad. Sci., v. 2, type *D. nitidus* Smith, 1870.
- Durckheimia* de Man, 1889, 442, Zool. Jahrb. Syst., v. 4, type *D. carinipes* de Man, 1889.
- Epixanthus* Heller, 1861, 323, Sitz. Akad. Wien, v. 43, pt. 1, type *E. kotschii* Heller, 1861 = *Ozius frontalis* Milne-Edwards, 1834.
- Euchirograpsus* Milne-Edwards, 1853, 175 [141], Ann. Sci. Nat. (3), v. 20, type *E. liguricus* Milne-Edwards, 1853.
- Eucrate* de Haan, 1835, 36, Fauna Japon., type *E. crenata* = *Cancer* (*Eucrate*) *crenatus* de Haan, 1835.
- Eucratodes* A. Milne-Edwards, 1880, 346, Crust. Rég. Mex., type *E. agassizii* A. Milne-Edwards, 1880.
- Eucratopsis* Smith, 1869, 35, Trans. Conn. Acad. Sci., v. 2, type *Eucrate crassimanus* Dana, 1851.
- Euryctisus* Cano, 1889, 88, 200, Boll. Soc. Nat. Napoli, v. 3, type *E. deplanatus* Cano, 1889.
- Euryplax* Stimpson, 1859, 60, Ann. Lyc. Nat. Hist. N. Y., v. 7, type *E. nitida* = *nitidus* Stimpson, 1859.
- Eurytium* Stimpson, 1859, 56, Ann. Lyc. Nat. Hist. N. Y., v. 7, type *E. limosum* Stimpson, 1859 = *Cancer limosus* Say, 1818 = *Panopeus limosus* Milne-Edwards, 1834.

- Fabia* Dana, 1851, 253, Proc. Acad. Nat. Sci. Phila., v. 5, type *F. subquadrata* Dana, 1851.
- Galene* de Haan, 1833, 4, 19, Fauna Japon., type *G. bispinosa* = *Cancer* (*Galene*) *bispinosus* de Haan, 1833 = *C. bispinosus* Herbst, 1783.
- Geryon* Krøyer, 1837, 20, Naturh. Tidssk., v. 1, type *G. tridens* Krøyer, 1837.
- Glyptograpsus* Smith, 1870, 153, Trans. Conn. Acad. Sci., v. 2, type *G. impressus* Smith, 1870.
- Glyptoplar* Smith, 1870, 164, Trans. Conn. Acad. Sci., v. 2, type *G. pugna* Smith, 1870.
- Gomeza* Gray, 1831, 39, Zool. Misc., type *G. bicornis* Gray, 1831.
- Goneplar* Leach, 1814, 393, 430, Edin. Encyc., v. 7. (Spelled *Goneplat* on p. 393, *Goneplar* on p. 430. The first form here is treated as a typographical error, the second was used also in 1815 by Leach. It was not until 1816 that the word was spelled *Gonoplar*.) Type, *Ocypode bispinosa* Lamarck, 1801 = *Cancer angulatus* Pennant, 1777 = *C. rhomboides* Linnaeus, 1758.
- Halimede* de Haan, 1835, Fauna Japon., type *Cancer* (*Halimede*) *fragifer* de Haan, 1835.
- Helice* de Haan, 1833, 5; 1835, 28, Fauna Japon.; type *Ocypode* (*Helice*) *tridens* de Haan, 1835.
- Hepthopelta* Alcock, 1899, 76, Account of Deep Sea Brachyura Coll. by Investigator, type *H. lugubris* Alcock, 1899.
- Hexapus* de Haan, 1833, 5; 1835, 35, Fauna Japon., type *H. serpes* de Haan, 1835 = *Cancer serpes* Fabricius, 1798.
- Holometopus* Milne-Edwards, 1853, 187 [153], Ann. Sci. Nat. (3), v. 20, type *Grapsus* (*Pachysoma*) *haematocheir* de Haan, 1835.
- Holothuriophilus* Nauck, 1880, 24, 66, Zeits. f. wiss. Zool., v. 34, pt. 1, type *H. trapeziformis* Nauck, 1880.
- Homalaspis* A. Milne-Edwards, 1863, 279, Ann. Sci. Nat. (4), v. 20, type *H. plana* = *Xantho planus* Milne-Edwards, 1834.
- Lachnopus* Stimpson, 1858, 32, Proc. Acad. Nat. Sci. Phila., v. 10, type *L. rodgersii* Stimpson, 1858.
- Leptodius* A. Milne-Edwards, 1863, 284, Ann. Sci. Nat. (4), v. 20, type *Chlorodius exaratus* Milne-Edwards, 1834.
- Liagore* de Haan, 1833, 4, 19, Fauna Japon., type *L. rubromaculata* = *Cancer* (*Liagore*) *rubromaculatus* de Haan, 1833.
- Libystes* A. Milne-Edwards, 1867, 285, Ann. Soc. Ent. France (4), v. 7, type *L. nitidus* A. Milne-Edwards, 1867.
- Liomera* Dana, 1851, 124, Am. Jour. Sci. (2), v. 12, type *L. cinctimana* Dana, 1851 = *Carpilius cinctimanus* White, 1848.
- Lipaesthesius* Rathbun, 1898, 584, Proc. U. S. Nat. Mus., v. 21, type *L. lecanus* Rathbun, 1898.
- Litocheira* Kinahan, 1856, 116, Jour. Roy. Dublin Soc., v. 1, type *L. bispinosa* Kinahan, 1856.
- Lophopanopeus* Rathbun, 1898, 272, Bull. Lab. Nat. Hist. State Univ. Iowa, v. 4, type *L. bellus* = *Xantho bella* Stimpson, 1860.
- Lophophilum* Miers, 1886, 148, Challenger Rept., Zool., v. 17, type *Pilumnus dilatipes* Adams & White, 1848.
- Lybia* Milne-Edwards, 1834, 431, Hist. Nat. Crust., v. 1, type *Melia tessellata* Latreille, 1825 = *L. tressellata* Milne-Edwards, 1834 = *Grapsus tessellatus* Latreille, 1818.

- Melybia* Stimpson, 1871, 144, Bull. Mus. Comp. Zoöl., v. 2, type *M. thalamita* Stimpson 1871.
- Metascsarma* Milne-Edwards, 1853, 188 [154], Ann. Sci. Nat. (3), v. 20, type *M. rousseauxi* Milne-Edwards, 1853.
- Metopocarcinus* Stimpson, 1860, 216, Ann. Lyc. Nat. Hist. N. Y., v. 7, type *M. truncatus* Stimpson, 1860.
- Micropanope* Stimpson, 1871, 139, Bull. Mus. Comp. Zoöl., v. 2, type *M. sculptipes* Stimpson, 1871, = *M. pugilator* A. Milne-Edwards, 1880, (not *M. sculptipes* A. Milne-Edwards, 1880).
- Notonyx* A. Milne-Edwards, 1873, 268, Nouv. Arch. Mus. Hist. Nat., Paris, v. 9, type *N. nitidus* A. Milne-Edwards 1873.
- Oedioplax* Rathbun, 1893, 241, Proc. U. S. Nat. Mus., v. 16, type *O. granulatus* Rathbun, 1893, = *granulata*.
- Ommatocarcinus* White, 1852, 393, App. No. 6 to Narr. of Voy. H. M. S. Rattlesnake, v. 2, type *O. macgillivrayi* White, 1852.
- Opisthopus* Rathbun, 1893, 251, Proc. U. S. Nat. Mus., v. 16, type *O. transversus* Rathbun, 1893.
- Orphinoxanthus* Alcock, 1898, 127, Jour. Asiatic Soc. Bengal, v. 67, type *Xanthodes microps* Alcock & Anderson, 1894.
- Panoplax* Stimpson, 1871, 151, Bull. Mus. Comp. Zoöl., v. 2, type *P. depressa* Stimpson, 1871.
- Paragalene* Kossmann, 1878, 253, Arch. f. Natur., v. 44, pt. 1, type *P. neapolitana* Kossmann, 1878.
- Parapanope* de Man, 1895, 513, Zool. Jahrb., Syst., v. 8, type *P. cuagora* de Man, 1895.
- Parapleurophrycoides* Nobili, 1906, 264, Bull. Mus. Hist. Nat. Paris, type *P. roseus* Nobili, 1906.
- Paraxanthus* Milne-Edwards & Lucas, 1843, 18, d'Orbigny's Voy. l'Amér. Mérid., v. 6, pt. 1, type *P. barbiger* = *P. hirtipes* Milne-Edwards & Lucas, 1843, = *Gecarcinus barbiger* Poeppig, 1836.
- Percnon* Gistel, 1848, viii, Naturg. Thierreichs, type *P. planissimum* = *Cancer planissimus* Herbst, 1804; submitted for *Acanthopus* de Haan, preoccupied.
- Perigrapsus* Heller, 1862, 522 [4], Verh. K. K. zool.-bot. Ges. Wien, v. 12, 1 Abth., type *P. excelsus* Heller, 1862.
- Pilumnoides* Milne-Edwards & Lucas, 1843, 21, d'Orbigny's Voy. l'Amér. Mérid., v. 6, pt. 1, type *P. perlatus* Milne-Edwards & Lucas, 1843 = *Hepatus perlatus* Poeppig, 1835.
- Pilumnus* Leach, 1815, 309, 321, Trans. Linn. Soc. Lond., v. 11, type *Cancer hirtellus* Pennant, 1777 = *C. hirtellus* Linnaeus, 1761.
- Pinnaxodes* Heller, 1865, 67, Reise Novara, v. 2, pt. 3, type *P. hirtipes* Heller, 1865.
- Pinnixa* White, 1846, 177, Ann. Mag. Nat. Hist., v. 18, type *P. cylindrica* White, 1846 = *Pinnotheres cylindricum* Say, 1818.
- Pinnotherelia* Milne-Edwards & Lucas, 1843, 24, d'Orbigny's Voy. l'Amér. Mérid., v. 6, pt. 1, type *P. laevigata* Milne-Edwards & Lucas, 1843.
- Pinnotheres* Latreille, 1801-2 [an X], 25, Hist. Nat. Crust., v. 3, type *Cancer pisum* Fabricius, 1775, = *C. pisum* Linnaeus, 1767.
- Planes* Bowdich, 1825, xi & 15, Excursions in Madeira & Porto Santo, pl. 13, figs. 2a, 2b, type *P. clypeatus* Bowdich, 1825 = *Cancer minutus* Linn., 1758.

- Platychirograpsus* de Man, 1896, 292, Zool. Anz., No. 506, type *P. spectabilis* de Man, 1896.
- Platypilumnus* Alcock, 1894, 401, Ann. Mag. Nat. Hist., (6), v. 13, type *P. gracilipes* Alcock, 1894.
- Platyxanthus* A. Milne-Edwards, 1863, 280, Ann. Sci. Nat. (4), v. 20, type *Xantho orbigny* Milne-Edwards & Lucas, 1843.
- Polydectus* Milne-Edwards, 1837, 145, Hist. Nat. Crust., v. 2, type *P. cupulifer* = *P. cupulifera* Milne-Edwards, 1837 = *Pilumnus cupulifer* Latreille, 1825.
- Polydectus* Rafinesque, 1815, 142, Analyse de la Nature, a genus of mollusks, is a *nomen nudum*.
- Prionoplax* Milne-Edwards, 1852, 163 [127], Ann. Sci. Nat. (3), v. 18, type *P. spinicarpa* = *spinicarpus* Milne-Edwards, 1852.
- Pseudocarcinus* Milne-Edwards, 1834, 407, Hist. Nat. Crust., v. 1, type *Cancer gigas* Lamarck, 1818. Type specified by Miers, 1886, 141, Challenger Rept., Zool., v. 17.
- Pseudopinnixa* Ortmann, 1894, 694, Zool. Jahrb. Syst., v. 7, type *P. carinata* Ortmann, 1894.
- Pseudorhombila* Milne-Edwards, 1837, 58, Hist. Nat. Crust., v. 2, type *Melia quadridentata* Latreille, 1825.
- Psopheticus* Wood-Mason, 1892, pl. 5, fig. 1, Illus. Zool. Investigator, Crust., pt. 1, type *P. stridulans* Wood-Mason, 1892.
- Ptychognathus* Stimpson, 1858, 104, Proc. Acad. Nat. Sci. Phila., v. 10, type *P. glaber* Stimpson, 1858.
- Pyxidognathus* A. Milne-Edwards, 1879, 109, Bull. Soc. Philo. (7), v. 3, type *P. granulosus* A. Milne-Edwards, 1879.
- Rhithropanopeus* Rathbun, 1898, 273, Bull. Lab. Nat. Hist. State Univ. Iowa, v. 4, type *Pilumnus harrisii* Gould, 1841.
- Rhizopa* Stimpson, 1858, 95, Proc. Acad. Nat. Sci. Phila., v. 10, type *R. gracilipes* Stimpson, 1858.
- Ruppellioides* A. Milne-Edwards, 1867, 279, Ann. Soc. Ent. France (4), v. 7, type *R. convexus* A. Milne-Edwards, 1867.
- Sarmatium* Dana, 1851, 247, 251, Proc. Acad. Nat. Sci. Phila., v. 5, type *S. crassum* Dana, 1851.
- Scalopidia* Stimpson, 1858, 95, Proc. Acad. Nat. Sci. Phila., v. 10, type *S. spinosipes* Stimpson, 1858.
- Scleroplax* Rathbun, 1893, 250, Proc. U. S. Nat. Mus., v. 16, type *S. granulata* = *granulatus* Rathbun, 1893.
- Speocarcinus* Stimpson, 1859, 58, Ann. Lyc. Nat. Hist. N. Y., v. 7, type *S. carolinensis* Stimpson, 1859.
- Sphaerozius* Stimpson, 1858, 35, Proc. Acad. Nat. Sci. Phila., v. 10, type *S. nitidus* Stimpson, 1858.
- Tetraxanthus* Rathbun, 1898, 275, Bull. Lab. Nat. Hist. State Univ. Iowa, v. 4, type *Xanthodes bidentatus* A. Milne-Edwards, 1880.
- Tetrias* Rathbun, 1898, 607, Proc. U. S. Nat. Mus., v. 21, type *T. scabripes* Rathbun, 1898.
- Thaumastoplax* Miers, 1881, 261, Ann. Mag. Nat. Hist. (5), v. 8, type *T. anomalipes* Miers, 1881.
- Utica* White, 1847, 85, Proc. Zool. Soc. Lond., v. 15, type *U. gracilipes* White, 1847.

- Varuna* Milne-Edwards, 1830, 511, Dict. Class. Hist. Nat., v. 16, type *V. litterata* Milne-Edwards = *Cancer litteratus* Fabricius, 1798.
- Xanthasia* White, 1846, 176, Ann. Mag. Nat. Hist., v. 18, type *X. murigera* White, 1846.
- Xanthodius* Stimpson, 1859, 52, Ann. Lyc. Nat. Hist. N. Y., v. 7, type *X. sternbergii* Stimpson, 1859. (If *Xanthodius* be considered not generically distinct from *Leptodius*, it must, according to the Law of Priority, take precedence of *Leptodius*. M. J. R.)
- Xenophthalmodes* Richters, 1880, 155, Fauna Mauritius, type *X. mocbii* Richters, 1880.
- Xenophthalmus* White, 1846, 177, Ann. Mag. Nat. Hist., v. 18, type *X. pinnotheroides* White, 1846.
- Zosimus* Leach in Desmarest, 1823, 228, Dict. Sci. Nat., v. 28, type *Cancer acneus* Linnaeus, 1758. (It was not until 1825 that Desmarest specified the author of *acneus*. M. J. R.)
- Zozymodes* Heller, 1861, 8[6], Verh. K. K. zool.-bot. Ges. Wien, v. 11, type *Z. carinipes* Heller, 1861.

Concurring Commissioners, eight: Horvath, Hoyle, Jordan (D. S.) (states: "I have no ground for a personal opinion in any case. But unless disputed by authority I favor adoption of all.") Jordan (K.), Kolbe (votes for part), Monticelli, Skinner (states: "I have no objection to any of these names."), and Stiles.

Dissenting Commissioners, two: Apstein (objects to one name, which has now been stricken from the list; no expression of approval as respects others) and Handlirsch (states: "I find it not necessary to include such names in an official list.")

Not voting, five Commissioners: Bather, Dautzenberg, Hartert (states: "No opinion, immaterial to me, no knowledge of Crustaceans."), Loennberg, and Stejneger.

OPINION 86

CONULINUS VON MARTENS, 1895

SUMMARY.—The generic name *Conulinus* von Martens, 1895, takes as type *Buliminus* (*Conulinus*) *conulus* Rv., and is not necessarily invalidated by *Conulina* Bronn.

STATEMENT OF CASE.—Major M. Connolly has presented the following case:

Conulinus von Martens (*Mollusca*) was first proposed as a subgenus of *Buliminus* without description of its points or definition of genotype in Nachr. d. Deutsch. Malak. Ges., 1895, p. 180, in a descriptive list of new species:

"No. 16. *Buliminus* (*Conulinus* n.) *Ugandae*." The author then describes the species and adds at the end of the description the words "verwandt mit *B. conulus* Rv." He then describes two other new species, *Buliminus* (*Conulinus*) *hildebrandti* and *B. (C.) metula*.

No genotype is nominated, and the whole point is whether it is possible for *B. conulus* Rv. to be admitted as the type, as it is not placed by the author in his new subgenus in his original list, although he mentions that one of his new species, belonging to that subgenus is "verwandt" with *conulus*.

In his work on "Beschalte Weichthiere deutsch Ost-Africa," 1897, on p. 64, von Martens defines and extends the subgenus *Conulinus* and nominates *L. conulus* Pfr. (a misprint for Rv.) as type, thus showing that he probably had that species in his mind as type when he originally propounded the subgenus, although he omitted to say so.

In 1914, Gude (*Fauna of British India, Mollusca*, vol. II, p. 280) rejects *Conulinus* von Mts. as void, owing to the prior existence of *Conulina* Bronn, 1835, and proposes in its place *Edouardia* [not *Edwardsia* quatr., 1842], with *B. conulus* "Pfr." (another misprint for Rv.) as type.

The questions therefore which require to be settled are:

(1) Is the name *Conulinus* acceptable at all, or should it be replaced by *Edouardia*?

(2) If it is acceptable, is *B. conulus* Rv. acceptable as its type?

The matter is now of very considerable importance, as recent anatomical investigation has proved that practically all the large South African species, which have usually been placed in *Pachnodus*, do not belong to that genus at all, but are similar to *conulus* in their anatomy, and even further, are so different in that respect from the nearest subfamilies in which they can be placed that it may be necessary to place them in a separate one, in which case it is important that the name of their genus should be absolutely unassailable. If *conulus* is acceptable as the type of *Conulinus*, the latter name is available for the genus; but if the type of *Conulinus* must be selected from the three [new] species in von Martens' original list, it will not be safe to apply it to the South African forms, including *conulus*, until the anatomy of whatever is selected as the type species is known; there is no proof, as yet, that it is the same as that of *conulus*. A ruling is also very desirable as to whether *Edouardia* Gude should replace *Conulinus* or be relegated to its synonymy.

DISCUSSION.—

(1) The statement by von Martens, 1895, that *B. (Conulinus) ugandae* is "verwandt mit *B. conulus* Rv." is equivalent to saying that *B. conulus* Reeve is allied to *B. (C.) ugandae*; and by that must be meant that *B. conulus* Reeve belongs to the new subgenus *Conulinus*. No more is said about *B. conulus* because von Martens was describing new species and not revising old ones.

(2) We have, then, given four syn-genotypes of the subgenus *Conulinus* viz. *B. ugandae*, *B. hildebrandti*, and *B. metula*, all new species, and *B. conulus* the well-known species of Reeve.

(3) If attention be confined for the moment to this paper (1895), anyone selecting a genotype would fix on *B. conulus* Reeve for two reasons:

(a) As the common well-known species, reference to which is dragged in by the author with the obvious purpose of explaining his new subgenus;

(b) As bearing the trivial name on which the subgeneric name is, without any doubt, based.

(4) The correctness of this conclusion is proved by von Martens' own action (1897) in fixing *B. conulus* as genotype.

(5) *Conulinus* von Martens is not preoccupied by *Conulina* Bronn;

(6) But, whether as *Conulinus* or as *Edouardia*, Gude (1914) confirms *B. conulus* as genotype.

(7) There is accordingly no difficulty in following the action of previous authors and retaining *B. conulus* as genotype.

The answer therefore is:

Conulinus von Martens stands, with genotype *Buliminus conulus* Reeve.

The foregoing case has been studied for the Commission independently by Dr. Wm. H. Dall, by Dr. Paul Bartsch, and by the Secretary, and all agree with the foregoing findings.

Opinion prepared by Commissioner Bather.

Opinion concurred in by 13 Commissioners: Apstein, Bather, Handlirsch, Hartert, Horvath, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting 2 Commissioners: Dautzenberg, Stejneger.

OPINION 87

THE STATUS OF PROOF-SHEETS IN NOMENCLATURE

SUMMARY.—Printer's proof-sheets do not constitute publication and, therefore, have no status under the International Rules of Zoological Nomenclature.

STATEMENT OF CASE.—Dr. Wm. H. Dall, of the U. S. National Museum, presents the following case for opinion:

Does the exhibition, to a few friends, of a proof-sheet for correction or expression of opinion, and not for publication or sale, containing a nude name, constitute publication and validation of a generic name forming part of the nude name? I enclose an example of such a case, which is claimed by some to validate the nude name.

Genus MEGASYSTROPHA Lea

Megasystropha Lea, Proc. Acad. Nat. Sci. Phila., 2nd ser., vol. 8, p. 5, Jan. 1864.

Type *Planorbis newberryi* Lea, 1858.

Carinifex W. G. Binney, Smithsonian Misc. Coll. No. 143, part 2, p. 74, Sept.

1865. Type *Planorbis newberryi* Lea, Proc. Acad. Nat. Sci. for 1858, p. 41.

December 9, 1863, Mr. W. G. Binney was engaged in preparing an account of the land and fresh water shells of the United States for the Smithsonian, and, desiring the opinion and criticism of his colleagues, he induced Professor Henry to send out a set of proof-sheets (not for sale) to a limited number of persons interested in the study of mollusks. In the preface to these sheets, Professor Henry, while explaining their purpose, remarks:

"As a mere proof which will undoubtedly receive many corrections, these pages should not be quoted as authority or referred to as a published work."

These proofs were in page form printed on one side of the paper and on the eleventh sheet occurs the absolutely nude name "*Carinifex newberryi* Lea."

There was, previously to this publication, an *Ancylus newberryi* Lea, 1858, a *Planorbis newberryi* Lea, 1858, a *Melania newberryi* Lea, 1860, and a *Goniobasis newberryi* Lea, 1863, but no *Carinifex newberryi*, nor in the proof-sheets referred to was there any indication which of the above species might be intended by Binney's *Carinifex newberryi*.

The first publication of the genus *Carinifex* occurs as indicated in the preceding synonymy in September, 1865. But Lea's name had been fully diagnosed and published January or February, 1864. It would seem that under the circumstances and according to the rules, *Megasystropha* should be accepted.

DISCUSSION.—The Secretary has verified the two printed references in question, namely, Lea 1864, p. 5, and Binney 1865, p. 74.

From the statement of the case it is obvious that the proof-sheets stated to have been sent out December 9, 1863, were intended neither as a permanent record nor as generally accessible nor as a published work. Accordingly they have no status of publication under the In-

ternational Rules of Zoological Nomenclature, and the Secretary recommends the adoption of the following Opinion by the Commission:

Printer's proof-sheets do not constitute publication and therefore have no status under the International Rules of Zoological Nomenclature.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Apstein, Bather, Dautzenberg, Handlirsch, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stejneger, Stiles, and Warren.

Opinion dissented from by no Commissioner.

Not voting, three Commissioners: Hartert, Hoyle, and Dabbene.

OPINION 88

OTARION DIFFRACTUM VS. CYPHASPIIS BURMEISTERI

SUMMARY.—The name of a species is not disqualified merely because the author included in his conception bodily parts of more than one species. The name of a genus based on such a species is therefore available. *Otarion diffractum* Zenker is valid. *Otarion* is to be preferred to *Cyphaspiis*, and *C. burmeisteri* Barr. is a synonym of *O. diffractum*.

STATEMENT OF CASE.—Dr. Rudolph Richter presents the following case for Opinion:

Wird der Name einer Art und Gattung dadurch ungültig, dass der Autor Körperteile eines anderen Tieres für zugehörige Teile der typischen Art ansah?

Otarion diffractum Zenker, 1833, vs. *Cyphaspiis burmeisteri* Barrande, 1846.

Otarion Zenker, 1833, vs. *Cyphaspiis* Burmeister, 1843.

1. Die Trilobiten-Art *Otarion diffractum* wurde von Zenker (Beiträge zur Naturgeschichte der Vorwelt. Jena 1833, p. 44, Taf. IV) mit sorgfältiger Beschreibung und mehreren, kenntlichen Abbildungen aufgestellt. Die Art gründet sich in allen wesentlichen Punkten der Diagnose und in der Wahl des Namens¹ "*Otarion*, Ohrtrilobit" ausdrücklich auf das Kopfschild. Das zusammengeschwenkte Vorkommen führte jedoch den Autor zu dem Irrtum, den Rumpf (mit Pygidium) einer anderen Art als zu jenem Kopfe gehörig zu betrachten.

J. Barrande hat 1846 (Notice préliminaire sur le système Silurien et les Trilobites de Bohême. Leipzig 1846, p. 50, Vervollständigt in: Système Silurien du Centre de la Bohême. 1. Paris-Prag. 1852, p. 484) das Kopfschild derselben Art als *Cyphaspiis burmeisteri* Barr., 1846, neu benannt. Er tat dies im vollen Bewusstsein und mit ausdrücklicher Betonung, dass der Kopf von *Otarion diffractum* Zenk. und die neue Art *Cyphaspiis burmeisteri* ohne Zweifel derselben Art angehören (1852, p. 25, 828). Für den Rumpf (mit Pygidium) der zweiten Art, die Zenker als zugehörig zu dem Kopf *diffractum* gehalten hatte, errichtete Barrande, im gleichen Bewusstsein der Identität, die Art *beaumonti* (*Calymene? beaumonti* Barr., 1846, p. 52; *Cromus beaumonti* 1852, p. 826, 828, 52). Barrande erklärte sich zur Aufstellung der beiden neuen Arten berechtigt, weil die Art *diffractum* sich durch die Vereinigung von Teilen verschiedener Tiere als ungültig erweise. Der Gebrauch folgt Barrande.

Die Frage ist: Verliert ein Art-Name seine Gültigkeit dadurch, dass sein Autor Körperteile eines anderen Tieres für zugehörig ansah; zumal, wenn aus der Originalarbeit hervorgeht, dass die fremden Körperteile für die Diagnose und Benennung unwesentlich waren, und wenn der zweite Autor genau wusste, was der erste Autor gemeint hat?

¹ "Wegen des in der Nackengegend zu beiden Kopfseiten befindlichen Hockerchens, was mit einem Ohrchen oder Ohrläppchen verglichen werden kann, habe ich den Namen *Otarion* (aus dem Griechischen, von *ὠτάριον*, Ohrchen) gewählt" p. 44.

2. Die Gattung *Otarion* Zenker, 1833, wurde gleichzeitig mit *O. diffractum* für diese Art aufgestellt. Da eine zweite Art ("*Otarion* (?) *squarrosus*") nur mit ausdrücklichem, wiederholt ausgesprochenem Zweifel² zu *Otarion* gestellt wurde, ist die Gattung monotypisch und ist *O. diffractum* der Genotyp. Und zwar ist (nach 1) der Genotyp die vom Kopfschild vertretene Art also diejenige, die Barrande später *Cyphaspis burmeisteri* nannte.

H. Burmeister (Die Organisation der Trilobiten. Berlin, 1843) erkannte p. 67, dass die Art *Otarion diffractum* Zenker, 1833, Teile unzusammengehöriger Arten enthalte und entchied "Diese Gattung ist daher aus der Trilobiten-Liste völlig zu streichen." Auf p. 193 errichtete Burmeister das Genus *Cyphaspis*, Genotyp durch Monotypie: *C. clavifrons* (Dalman). Mit dieser *Cyphaspis clavifrons* ist aber (was Burmeister noch nicht wusste) der Genotyp von *Otarion*, *O. diffractum* (= *Cyphaspis burmeisteri* Barrande, 1846), kongenerisch.

Barrande, 1852, p. 24, erklärte, aus dem gleichen Grunde wie Burmeister, die Gattung *Otarion* Zenker, 1833, für hinfällig und setzte *Cyphaspis* Burmeister, 1843, dafür ein. Der Gebrauch folgt Barrande.

* * * *

Wird die Frage I so entschieden, dass die Art *Otarion diffractum* Zenker, 1833, als Species (statt *Cyphaspis burmeisteri* Barr., 1846) gültig ist, so muss auch *Otarion* Zenker, 1833, als Gattung (statt *Cyphaspis* Burmeister, 1843) gültig sein. Unabhängig von dieser Entscheidung ist die andere, ob der Gebrauch die Suspendierung der "Internat. Regeln" in diesem Falle rechtfertigt.

DISCUSSION.—In the same way as many genera have notoriously been based on several species subsequently found to belong to more than one genus, so has many a species been based on numerous specimens, some of which have subsequently been relegated to other species or even genera. In this respect there is no difference between extinct and recent species. The procedure to be followed in such cases is well known.

The difference that arises in the case of some fossils depends on the fact that many fossils are incomplete, and that a conception of the whole must therefore be based on more than one specimen. The specimens thus utilized may prove to be of diverse species or genera. Thus we have drawings of crinoids with the cup of one species, the arms of another, and the stem possibly of a third; reptiles with limb-bones derived from varied sources; and so on.

Essentially there is no difference between this mixture and that arising among recent species. The remedy is the same.

² "Bis jetzt kenne ich bloss 2 hierhergehörige Arten, und von der zweiten ist es selbst nicht ausser Zweifel, ob sie wohl unter diese Gattung zubringen sey." (p. 44).—"Es möchte nicht unwahrscheinlich seyn, dass, wenn man einmal ein vollständiges Exemplar auffände, diese Art den Typus einer neuen Gattung enthielte" (p. 47).

Another kind of difficulty, however, is more likely to be presented by fossils than by recent species. If in a description or a drawing the characters are inextricably mingled and inaccurately presented, it may be impossible to recognize the component species except by external evidence. In such a case the name has no recognizable foundation, and if the first reviser has declined to adopt it on that ground, his action is justified.

In the present case no such plea was raised and the action of Burmeister and Barrande was therefore unjustified.

The obvious course therefore is to fix on one of the figured head-shields as the holotype of *Otarion diffractum* Zenker. The generic and specific names will then both hold good, and will reckon *Cyphaspis* and *C. burmeisteri* among their synonyms. *Cyphaspis clavifrons* will become *Otarion clavifrons*.

Following on this decision it is suggested that the rules should be suspended so as to permit the continued use of the names *Cyphaspis* and *C. burmeisteri* instead of their replacement by the hitherto unaccepted names *Otarion* and *O. diffractum*.

Cyphaspis is not a name so widely known and used as, say, *Trinucleus*; at the same time only inconvenience can be caused by changing it after nearly 80 years. The proposal may, therefore, be submitted for the vote of the Commission.

On basis of the foregoing premises I recommend the Commission adopt as its Opinion the following:

The name of a species is not disqualified merely because the author included in his conception bodily parts of more than one species. The name of a genus based on such a species is therefore available. *Otarion diffractum* Zenker is valid. *Otarion* is to be preferred to *Cyphaspis*, and *C. burmeisteri* Barr. is a synonym of *O. diffractum*.

Opinion prepared by Commissioner Bather.

Opinion concurred in by 14 Commissioners: Apstein, Bather, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stejneger, Stiles, and Warren.

Opinion dissented from by no Commissioner.

Not voting, 2 Commissioners: Dautzenberg and Hoyle.

Commissioner Stejneger states: "I object, however, to the inclusion of the paragraph on page 25 beginning 'Another kind of difficulty,' etc., as well as the next one ending with the word 'unjustified.' The very fact that 'no such plea was raised' shows that the whole argument is *at best* superfluous. Opinions on cases not specifically submitted should be avoided on general principles."

The Secretary states: "It is the understanding that we are voting upon the case before us and not upon a principle involving cases not actually before the Commission. Accordingly the Secretary's view is that the present opinion does not bind the Commission to the paragraph to which Commissioner Stejneger objects.

"It is the Secretary's further understanding that this opinion is not to be construed as suspension of the rules. The question of possible suspension could not be considered until the first question by the appellant was definitely answered. With the publication of the answer it becomes possible for interested authors to present, if they desire, application for suspension and arguments supporting their proposition. Pending such application the Secretary considers the case closed."

OPINION 89

SUSPENSION OF THE RULES IN THE CASE OF GRONOW 1763, COMMERSON 1803, GESELLSCHAFT SCHAUPLATZ 1775 TO 1781, CATESBY 1771, BROWNE 1789, VALMONT DE BOMARE 1768 TO 1775

SUMMARY.—Under suspension of the rules, in any case where such suspension may be considered necessary according to the interpretation now or hereafter adopted by the Commission, the following works or papers are declared eliminated from consideration as respects their systematic names as of their respective dates: Gronow 1763, Commerson 1803, Gesellschaft Schauplatz 1775 to 1781, Catesby 1771, Browne 1789, Valmont de Bomare 1768 to 1775.

STATEMENT OF CASE.—Commissioner David Starr Jordan has submitted the case in the following letter to the Secretary:

There are certain writers in ichthyology who did not accept the Linnaean system, usually because they had not heard of it, but whose papers saw the light after the date of 1758. There are others whose pre-Linnaean work was reprinted with additions. After the date (1758) of the Tenth Edition of the *Systema Naturae*, many of the genera thus proposed were in due time adopted by binomial authors and have found their way into the system. Those not so fortunate remain as stumbling blocks, some of them extremely annoying, and it is the consensus of all the ichthyologists I have consulted that it is very desirable in some way to eliminate from consideration all non-binomial authors on fishes whose works are printed since 1758. Even more confusing is the legalization of the names, non-binomial, quoted by Lacépède in footnotes but not adopted, from the field naturalists, Commerson and Plumier.

In order definitely to settle the status of certain generic names which in one form or another have been at times before the Commission, I propose, on the advice of the Secretary to the Commission, that the cases in question as noted below be settled by the use of the "Plenary Power" method on the ground that the application of the Rules as interpreted by the opinions and as applied to these "binary" but not "binomial" combinations will produce confusion rather than uniformity.

I therefore propose that under Suspension of Rules under Plenary Power, the Commission definitely reject the works named below from consideration under the Law of Priority. Under this action it is to be understood that no generic name proposed as new or reprinted in non-binomial form from or in any of the following works shall have nomenclatorial status under the Rules (as of the date in question), but that such names shall receive nomenclatorial status only through later publication and adoption by some author whose writings, under the Rules, are unchallenged.

LIST OF WORKS UNDER CONSIDERATION

- GRONOW, 1763, *Museum Ichthyologicum* [better *Zoophylacium*¹], 1763.
 COMMERSON, 1803, (as footnotes in Lacépède *Histoire Naturelle des Poissons*, 1803 mostly.)
 GESELLSCHAFT SCHAUPLATZ, 1775 to 1781. An anonymous dictionary accepting the pre-Linnaean genera of Klein.
 CATESBY, 1771, *Natural History of Carolina, Florida and the Bahamas* (1731 to 1750), revised reprint by Edwards (1771).
 BROWNE, 1789, *Civil and Natural History of Jamaica*, 1766, revised reprint 1789.
 VALMONT DE BOMARE, 1768-75, *Dictionnaire Raisonné Universelle d'Histoire Naturelle*. Ed. II. 1768-1775: several names accidentally binomial.

In support of the foregoing I may report that I have made an exhaustive study of the cases in question and I feel certain that the adoption of this rule will avoid much regrettable confusion. Except the names of Gronow, none of the others has yet been brought into general use and two at least of the names drawn from Gronow (*Amia* and *Scarus*) have proved most unwelcome as displacing names in almost universal use.

Gronow himself was an excellent systematist, who adopted the Linnaean system as soon as he heard of it. Most of the genera in his "*Museum Ichthyologicum*" of 1763, had previously appeared in earlier papers and most of them also have been stabilized through their adoption in 1777 by Scopoli (*Introductio*), a binomial author, those not preoccupied being now in general use.

A few of the others, revived at one time or another, have been sources of great inconvenience to systematists. For which reason, I now recommend that the Commission should reject the names of Gronow (accepted under Opinion 20) but not adopted by subsequent authors, before other names had been given to the same groups.

The unwelcome changes resulting under Opinion 20 are the following:

Amia Gronow (1763) for *Apogon* Lacépède, 1803. This necessitates the change of *Amia* Linnaeus (1766) to *Amiatus* Rafinesque, 1814. The name *Amia* as applied by Linnaeus is in a way classical, the fish in question being of especial interest to anatomists and paleontologists. The name *Apogon* for a large group of fishes is also well established. In any event, I would recommend that *Amia* Gronow be set aside in favor of *Amia* Linnaeus, even if other names of Gronow are allowed.

Scarus. Scarcely less undesirable is the application of the names *Scarus* and *Callyodon* of Gronow. *Scarus* Gronow is a synonym of *Labrus* Linnaeus

¹ The references given by Commissioner Jordan (cf. also Jordan & Evermann, 1917a, *The Genera of Fishes*, pp. 17-22) make it obvious that a slight confusion has occurred in the bibliographic citation.

Gronow's *Museum Ichthyologicum* bears the date of 1754 (vol. 1), [and 1756 (v. 2) not verified by Secretary], and as this is prior to Linnaeus' *Syst. nat.*, 10th edition, there would be no object in bringing it to the attention of the Commission; the Secretary has thus far been unable to find any later edition.

Gronow's *Zoophylacium* bears the dates: fasc. I, 1763; fasc. II, 1764. The fishes are given on pp. 27-137, fasc. I, and this is the paper discussed by Jordan & Evermann in 1917 and in Opinion 20.

(1758). It antedates and, if accepted, nullifies *Scarus* Forskål (1775), for one of the most important groups of fishes. *Callyodon* Gronow (1763) in this case supersedes *Scarus* Forskål. It is, however, not identical with *Calliodon* of Cuvier (1829), a name also in general use. (*Calliodon* Schneider, 1801, is a variant spelling of *Callyodon*, as is also the case with Cuvier's *Calliodon*.)

If *Scarus* and *Callyodon* of Gronow are set aside, *Scarus* Forskål would be adopted, *Callyodon* or *Calliodon* of later writers becoming a synonym of it.

Cyclogaster Gronow (1763) was replaced by *Liparis* Scopoli (1777), the latter name being used by nearly all subsequent authors.

Enchelyopus Gronow (1763) (rejected by Scopoli as a synonym of *Blennius* L.) is equivalent to *Zoarces* Cuvier, 1817. *Euchelyopus* (borrowed from Klein, 1744) was also used by Schneider (1801) as the equivalent of *Rhinonemus* Gill (1863), and by Agassiz (1844) for a fossil genus of eels (*Paranguilla* Bleeker, 1864).

Coracinus Gronow (not of Pallas, 1811) is equivalent to *Dipterodon* Cuvier (1829), which, however, is preoccupied, and is replaced by *Dichistius* Gill (1888).

Hepatus Gronow corresponds to *Acanthurus* Forskål (1775), and is based on the same species as *Tenthis* Linnaeus, 1766.

COMMERSION AND PLUMIER.—The action of the Commission in the case of Gronow will again raise the question partially touched in Opinions 23 and 24.

In Lacépède's *Histoire Naturelle des Poissons* (1798-1803) a number of manuscript names of field workers are mentioned in footnotes. These are drawn from notes of one or the other of two active workers, Philibert Commerson, a traveler, and Charles Plumier, a priest stationed on Martinique. For both cases the specific names quoted are polynomial, although Commerson, at least, had a clear idea of the meaning of genus. Omitting names already preoccupied or negligible as synonyms, the following are left as available in case of acceptance:

<i>Alticus</i>	Commerson = <i>Rupiscartes</i>	Swainson	1839
<i>Cheloniger</i>	Plumier = <i>Conodon</i>	Cuvier	1829
<i>Chromis</i>	Plumier = <i>Umbrina</i>	Cuvier	1817
<i>Enchrasicolus</i>	Commerson = <i>Anchoziella</i>	Fowler	1911
<i>Pagrus</i>	Plumier = <i>Neomaenis</i>	Girard	1859
<i>Sarda</i>	Plumier = <i>Ocyurus</i>	Gill	1862

In case these names are allowed as eligible, the names *Pagrus*, *Sarda*, and *Odax* Cuvier must be replaced. *Odax* Commerson is a synonym of *Scarus*.

I propose that the generic names of Commerson and Plumier, not adopted by binomial authors, be regarded as ineligible, being (a) not binomial, (b) not accepted by the author who published them, and (c) as likely to produce more confusion than uniformity.

The case of *Antennarius* vs. *Histrion*, considered in Opinion 24, is not quite parallel, as *Histrion* Fischer, 1813, seems (by tautonymy) not synonymous with *Antennarius* (Commerson) Lacépède, 1798, and of Cuvier, 1877, but rather of *Pterophryne* Gill, 1863.

THE "GESELLSCHAFT SCHAUPLATZ."—I ask the Commission also to consider the generic names found in a dictionary entitled "Neuer Schauplatz der Natur, nach den richtigsten Beobachtungen und Versuchen, in alphabetischer Ordnung; Durch eine Gesellschaft der Gelehrten": Weidmann, Leipzig: 10 volumes, 1775 to 1781.

The work is anonymous, its compilation being doubtfully ascribed to Philip Ludwig Stäuss Müller, professor at Erlangen. In it all the generic names used by Jacob Theodor Klein of Jena in his *Historia Piscium Naturalis* (1740 to 1744) are reproduced and accepted, the species still left polynomial in designation, the generic diagnoses being rewritten and much condensed. The *Schau-platz* contains also a special list of genera of fishes, comprising all those of Linnaeus and of Klein. The objections to the adoption of the genera of the *Gesellschaft Schauplatz* are mainly two: (a) they are published in an anonymous dictionary and (b) as to species the Linnaean Code is not adopted.

Their rejection is foreshadowed in Opinion 21 by which the genera of Klein (1744) as revised and reprinted, but *without* adoption, by Walbaum (1792) are not accepted. They are, however, adopted by Garman (*Plagios-tomia*).

Their acceptance would necessitate certain changes, mostly unwelcome, in current nomenclature, as follows:¹

<i>Brama</i>	for <i>Abramis</i> Cuvier 1817
<i>Cestracion</i>	for <i>Sphyrna</i> Rafinesque 1810
<i>Dasybatus</i>	for <i>Dasyatis</i> Rafinesque 1810
<i>Glaucus</i>	for <i>Caesiomorus</i> Lacépède 1803
<i>Labrax</i>	for <i>Dicentrarchus</i> Gill 1860
<i>Leuciscus</i>	for <i>Leuciscus</i> Cuvier 1817
<i>Macnas</i>	for <i>Macna</i> Cuvier 1817
<i>Narcacion</i>	for <i>Torpedo</i> Duméril 1806 and <i>Narcobatus</i> Blainville 1816
<i>Pristis</i>	for <i>Pristis</i> Linck 1790
<i>Prochilus</i>	for <i>Amphiprion</i> Schneider 1801
<i>Pseudopterus</i>	for <i>Pterois</i> Cuvier 1817
<i>Rhina</i>	for <i>Squatina</i> Duméril 1806
<i>Rhombus</i>	for <i>Bothus</i> Rafinesque 1810 (<i>Rhombus</i> Cuvier 1817)
<i>Rhinobatus</i>	for <i>Rhinobatus</i> Schneider
<i>Sargus</i>	for <i>Diplodus</i> Rafinesque 1810 (<i>Sargus</i> Cuvier 1817)

A new name would be required for *Cichla* Schneider 1801, *Cichla* Klein being a synonym of *Labrus*.

CATESBY AND BROWNE.—The generic names of Catesby (1771) and of Browne (1789) are apparently ineligible under Opinion 21, which rejects the pre-Linnaean generic names of Klein as reprinted with diagnosis in condensed form but not adopted by Walbaum in 1792.

CATESBY'S "NATURAL HISTORY OF CAROLINA, FLORIDA AND THE BAHAMAS" (1731-1750) was reprinted in French, German, and English, two editions at least, since 1758. The one published by George Edwards in 1771 shows some revision, but none which affects nomenclature. Under Opinion 13, the question of the eligibility of the Edward's edition is decided adversely.

BROWNE'S "CIVIL AND NATURAL HISTORY OF JAMAICA," an excellent work, was published in 1756 and reprinted with some revision in 1789. There were,

¹ See Jordan, *Genera of Fishes*, part I, pp. 34 and 148, 1917, for a full discussion of the matters involved.

however, no changes affecting nomenclature. Although his twelve new genera in addition to those of Artedi are well founded, I think that they should be regarded as ineligible as occurring in a slightly revised post-Linnaean reprint in which the Linnaean Code is not adopted. The argument of Opinion 13 adverse to the acceptance of the names given in the reprint of Catesby applies equally to Browne.

VALMONT DE BOMARE.—In his recent monograph of the living sharks (*Plagiostomia*, Cambridge, Mass., 1913) Mr. Samuel Garman has adopted as generic names certain appellations in binomial form, found in Valmont's "Dictionnaire Raisonné Universelle d'Histoire Naturelle," in four editions, 1764-1791. In the first edition the few Latin names are plainly vernaculars. In the "Nouvelle Edition," 1768, and in "Edition II" in 1775, a few names, all of sharks, assume a distinctly binomial form. It is apparently plain, however, that the author regards these as Latin translations of the vernacular, especially as in his fourth edition (1791), he gives a list of the genera of fishes, including all of those of Linnaeus but adding no names of his own.

It seems to me a fair ruling that Valmont's names are binomial only by accident, and not accepted as genera by their author. The only new names of Valmont* are the following:

<i>Galeus</i>	= <i>Prionace</i> Cantor 1849
<i>Ulpacula</i>	= <i>Alopias</i> Rafinesque 1810
<i>Catulus</i> (preoccupied)	= <i>Scylliorhinus</i> Blainville 1816
<i>Mustellus</i>	= <i>Cynias</i> Gill 1903
(Not <i>Mustelus</i> of Linck, Leach, Fischer or Cuvier, all of these based on <i>Squalus mustelus</i> L.)	

DISCUSSION.—Opinion 20, issued by the Commission, has given rise to considerable discussion which thus far has not led to definite results. Commissioner Jordan has suggested a middle ground which will enable the Commission to obtain the results generally desired and without respect to the merits or demerits of Opinion 20. Namely, he proposes that the Commission declare as nomenclatorially invalid the six papers in ichthyology which have produced confusion under Opinion 20.

Commissioner Jordan and the Secretary held prolonged discussion on the matter at Leland Stanford University and they concur in the wisdom of this move.

In accordance with the prescribed routine governing Suspension of Rules, notice of the consideration of this suspension has been published as follows:

MONITORE ZOOLOGICO ITALIANO 1922, Anno 33 (N. 12), p. 203.

NATURE, October 14, 1922, p. 523.

SCIENCE, December 15, 1922, p. 690.

* For a further account of Valmont's work, see Jordan, Genera of Fishes, part I, p. 24, 1917.

No protest from any source has been received against the action suggested.

Commissioner Jordan and the Secretary join in recommending that under Suspension of the Rules the Commission definitely reject the papers named from consideration as respects their systematic names, as of their respective dates, under the Law of Priority.

The effect of the foregoing proposition is to reject as unavailable (as of the dates in question) all systematic (chiefly generic) names published as new in the foregoing works, but to leave them as *available* as of the dates when they were later adopted by authors whose nomenclatorial practice is unquestioned by zoologists. Thus, a *modus operandi* is suggested to solve in a practical way the impasse which has existed for about 20 years in the views respecting the use of the words "binary" and "binomial". While neither side concedes the principle it supports, both sides unite on another principle, namely, that the important end in view is to obtain, not to delay, results, and that the "plenary power," used judiciously and discreetly, offers us a practical method to solve the problems upon which there is such conscientious difference of opinion as to interpretation that consensus of opinion seems hopeless.

Opinion prepared by Stiles and Jordan.

Opinion concurred in by 15 Commissioners: Apstein, Bather, Handlirsch, Hartert, Horvath, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Monticelli, Skinner, Stejneger, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, two (three ?) Commissioners: Dabbene, Dautzenberg, and ? Hartert.

Commissioner Bather concurred with the following reservations—"That the Opinion read as follows:

"Under suspension of the rules in any case where such suspension may be considered necessary according to the interpretation now or hereafter adopted by the Commission, the following works or papers are declared eliminated, etc., etc.

"I understand from Dr. E. Hartert (letter 20 Feb., 1924) that he and Dr. K. Jordan both agree to the above."

Commissioner Hartert states that he concurs "with the reservation that Opinion 20 must afterwards be revoked!"

Commissioner K. Jordan states that he concurs "with the proviso that the present vote is not taken as prejudicing a possible future vote on the reversal of Opinion 20."

Commissioner Stejneger concurs "with the express proviso that the rejection of Catesby 1771 does not involve the concordance of the Editor of this edition, in which the equivalent Linnaean names are given. This concordance is appended to the second volume and has the following title:

'A Catalogue / of the Animals and Plants / represented in Catesby's Natural History of Carolina: / With the Linnaean Names.' /

"About the legitimacy of these names there can be no dispute. The editor realizing that Catesby's names—even when consisting of one generic and one trivial name only—had no nomenclatorial standing, deliberately and successfully set about to remedy this defect.

"As I understand the present "Opinion" its intention is only to eliminate the names given by Catesby."

REMARKS BY SECRETARY: Commissioner Bather's suggestion involves only editorial revision and has been complied with.

As respects Commissioner Hartert's reservation, Opinion 20 is not before the Commission in this vote. As he does not specifically vote against the Opinion, his name is carried with a ? both under the concurring and the not voting Commissioners. In either case this does not influence the ultimate result.

Commissioner Stejneger's reservation is interpreted by the Secretary as limiting the unanimous vote of the Commission in the case of Catesby 1771 so that the suspension does not include the concordance.

OPINION 90

REPORT ON SIXTEEN GENERIC NAMES OF MAMMALS FOR WHICH
SUSPENSION OF RULES WAS REQUESTED

SUMMARY.—None of the sixteen names receives a unanimous vote for suspension; accordingly, the Commission is not empowered to suspend the Rules for these cases. Six names (namely: *Cercopithecus*, *Gazella*, *Hippotragus*, *Lagidium*, *Nycteris*, and *Manatus*) receive two-thirds majority or more for suspension, and are, therefore, to be referred for final decision to a special committee of three to be appointed by the President of the section on nomenclature of the next international congress. Ten names (namely: *Echidna*, *Anthropopithecus*, *Coclogenyis*, *Chiromys*, *Dasypus*, *Dictotyles*, *Galeopithecus*, *Hapalc*, *Rhytina*, and *Simia*) fail to receive a two-thirds majority vote for suspension, and therefore the Law of Priority is to be applied in these cases.

STATEMENT OF CASE.—Suspension of the rules by exercise of the Plenary Power, accorded to the Commission by the International Zoological Congress held at Monaco, was requested by seven specialists in mammalogy (namely: Knud Anderson, Angel Cabrera, Einar Loennberg, R. Lydekker, Paul Matschie, Oldfield Thomas, and L. L. Trouessart) for the following generic names:

1. *Cercopithecus* Brünnich, 1772, 34.
2. *Gazella* Blainville, 1816, 75.
3. *Hippotragus* Sundevall, 1846 (for 1844), 916.
4. *Lagidium* Meyen, 1833, 576.
5. *Nycteris* Cuv. & Geof., 1795, 186, or Geoffroy, 1803, 64.
6. *Echidna* G. Cuvier, 1798, 143 (*nec Echidna* Forster, 1777, 181; or 1778, 31; or 1788, 81).
7. *Anthropopithecus* Blainville, 1838, 360.
8. *Coclogenyis*. Emended and commonly used form of *Coclogenus* F. Cuvier, 1807, 203; *Coclogenyis* Illiger, 1811, 92.
9. *Chiromys*. Emended and commonly used form of *Cheirromys* G. Cuvier, 1800, Tabl. 1 (not *Chieromys* as stated by Palmer), *Chiromys* Illiger, 1811, 75.
10. *Dasypus* Linn., 1758a, 50.
11. *Dictotyles* G. Cuvier, 1817, 237.
12. *Galeopithecus* Pallas, 1780, 208.
13. *Hapalc* Illiger, 1811, 71.
14. *Rhytina* emended form of *Rytina* Illiger, 1811, 141. *Rhytina* Gloger, 1841, 165.
15. *Simia* Linn., 1758a, 25.
16. *Manatus* Brünnich, 1772, 34, 38.

The cases in question were published in *Science*, n. s., v. 40, pp. 66-67, July 10, 1914; *Bull. Soc. Zool. France*, v. 39, 247-250, July 25, 1914; *Monitore Zool. Ital.*, anno 25, 174-179; and in

Zool. Anz., v. 44, pp. 630-632, July 28, 1914. Accordingly, the conditions required respecting public notification of the zoological profession have been complied with. Further, the names were sent out by the Secretary in Circular Letter No. 3, April 1915, to about 350 zoologists and zoological institutions. Up to August 14, 1915, 66 replies were received to Circular Letter No. 3. The views expressed were tabulated and submitted to the Secretary of the Advisory Committee on Nomenclature of Mammals (Aug. 14, 1915, Circular Letter No. 12). This Advisory Committee appeared to be so divided in its views as to the advisability of suspension of rules that the entire matter was submitted to the Commission by the Secretary of the International Commission (September, 1916, Circular Letter No. 31) with recommendation that the case be tabled, without prejudice, until March 1, 1917, in order to give interested persons an opportunity to complete the evidence. Of eight votes returned in reply to this recommendation, six were affirmative and two were in favor of accepting the names.

New briefs were submitted by Mr. Oldfield Thomas in the name of the signers of the original papers asking suspension. The Advisory Committee on Mammalian Nomenclature was so hopelessly divided in regard to these cases that it was useless to submit to said Committee these new presentations by Oldfield Thomas. Accordingly these new briefs with all the earlier documents were forwarded by the Secretary to Commissioner Allen (since, deceased) for study and report.

The documents in respect to these cases are voluminous and in view of present cost of printing the Secretary does not feel justified in requesting the Smithsonian Institution to publish them.

The correspondence on the cases conducted by the Secretary with the Commissioners, with the appellants and others, covers a period of 11 years and no good purpose would be served by abstracting it for publication.

DISCUSSION.—Commissioner Allen studied the cases and his report was submitted to the Commission. Summaries of the names are tabulated as follows:

Group A. Suspension Recommended Favorably by Commissioner Allen: (1) *Cercopithecus*, (2) *Gazella*, (3) *Hippotragus*, (4) *Lagidium*, (5) *Nycteris*.

(1) *Cercopithecus*. Application of Name Advocated by Appellants. To the Guenon Monkeys, from Brännich, *Zoologiae Fundamenta*, p. 34, 1772, with *C. mona* (*Simia mona* Schreb.) as genotype.

Asserted Code Application.—To the Tamarin Marmosets, from Gronow, *Zoophylacium*, p. 5, 1763, with *Simia midas* Linn. as genotype. [See Opinion 89.]

(2) *Gazella*. Application of Name Advocated by Appellants. *Gazella*, as from Blainville, Bull. Soc. Philom. Paris, 1816, p. 75, to be applied to Gazelles, with genotype (fixed by Ogilby, P. Z. S. 1836, p. 137);—*Capra dorcas* Linn., Syst. Nat., p. 69, 1758a, the common N. African Gazelle.

Possible Code Application.—To Gemsbok (Genus *Oryx*).

(3) *Hippotragus*. Application of Name Advocated by Appellants.—*Hippotragus* Sundevall, K. Vte. Ak. Handl. (for 1844), p. 196, 1846.

Genotype.—*Antilope leucophaca* Pallas, Misc. Zool., p. 4, 1766.

Code-Names.—*Egocerus* Desm., Mamm., v. 2, p. 475, 1822 (*nec* *Ægoceros*. Pallas, Zoog. Ross.-As. i, p. 224, 1811). Same genotype, or *Ozanna* Reichenb., Vollst. Nat. Säug., v. 3, p. 126, 1845. Genotype *Antilope niger* Harris, P. Z. S., 1838, p. 2.

Synonyms.—None beyond those above, though many variants of *Egocerus* have been used, including *Ægoceros*, identical in spelling with the name for the Wild Sheep given by Pallas.

(4) *Lagidium*. Application of Name Advocated by Appellants.—*Lagidium* Meyen, N. Act. Leop., v. 16 (2), p. 576, 1833.

Genotype.—*Lagidium peruanum* Meyen, l. c.

Code-Name.—*Viscaccia* Oken, Lehrb. Nat., v. 3, Zool., 2, p. 835, 1816. Genotype "*Lepus chilensis* Molina."

Synonyms.—*Callomys* d'Orb. and Geof., Ann. Sci. Nat. Paris, v. 21, pp. 282, 289, 1830; *Lagotis* Bennett, 1833, *nec* Blainville, 1817.

(5) *Nycteris*. Application of Name Advocated by Appellants.—*Nycteris* Cuv. & Geof., Method Mam., in Mag. Ency., 1795, 66, or Geoffroy, Cat. Mamm. Mus. Nat. Hist., p. 64, 1803, to be used for the Old World bats so known.

Genotype.—*Vespertilio hispidus* Schreber, Säug., v. 1, p. 169, 1774 (*vide* Sherborne) or 1775. Type locality Senegal.

Code-Name.—*Petalia* Gray, Mag. Zool. Bot., v. 2, p. 494, 1838. Genotype *Nycteris javanica* Geoffroy.

Synonyms.—*Nycterops* Gray, P. Z. S. 1866, p. 83; genotype *N. pilosa* Gray; *Pelatia* Gray, P. Z. S. 1866, p. 83, genotype *N. javanica* Geoffroy.

Group B. Report Adverse for Suspension by Commissioner Allen for Mammalogy and Commissioner David Starr Jordan for Ichthyology: (6) *Echidna*.

(6) *Echidna*. Name Advocated by Appellants.—*Echidna* G. Cuvier, Tabl. Elem., p. 143, 1798. Preoccupied by *Echidna Forster*, 1777, Icones, 181, fish.

Genotype.—*Myrmecophaga aculeata* Shaw, Nat. Misc., v. 3, pl. 109, 1702. Type locality New South Wales.

Code-Name.—*Tachyglossus* Illiger, Prodr. Syst. Mamm., p. 114, 1811. Same genotype.

Synonym.—*Echinopus* G. Fischer, Zoognosia, v. 3, p. 691, 1814. Same genotype.

Group C. Report by Allen Adverse for Suspension in the Following Ten Cases: (7) *Anthropopithecus*, (8) *Coclogenus*, (9) *Chiro-mys*, (10) *Dasypus*, (11) *Dicotyles*, (12) *Galeopithecus*, (13) *Hap-ale*, (14) *Rylina*, and (15) *Simia*.

(7) *Anthropopithecus*. Name Advocated by Appellants.—*Anthropopithecus* Blainville, Ann. Fr. d'Anat. Phys., v. 2, p. 360, 1838.

Genotype.—*Simia troglodytes* Gmel., Linn. S. N., v. 1, p. 26, 1788.

Code-Name.—*Pan* Oken, Lehrb. Naturg., v. 3 (2), p. 1230, 1816. Same genotype.

Synonyms.—*Troglodytes* Geoff., 1812 (*nec* Vieillot, 1806); *Mimetes* Leach, 1820; *Theranthropus* Brookes, 1828; *Hylanthropus* Gloger, 1841; *Pseudanthropos* Reichenbach, 1860; *Engeco* Haeckel, 1866; *Pongo* Haeckel, 1866. All with same genotype.

(8) *Coclogenyis*. Name Advocated by Appellants.—*Coclogenyis*. Emended and commonly used form of *Coclogenus* F. Cuvier, Ann. Mus. Paris, v. 10, p. 203, 1807; *Coclogenyis* Illiger, Prodr. Syst. Mamm., p. 92, 1811.

Genotype.—“*Cavia paca* Linn.” (*Mus paca* Linn., Syst. Nat., 12 ed., 1, p. 81, 1766).

Code-Names.—*Cuniculus* Brisson, Regn. Anim., 2d ed., p. 13, 95, 98, 1762. Same genotype (as selected by Hollister, P. Biol. Soc. Wash., v. 26, p. 79, 1913).

But certain authors do not accept Brissonian names, and for these the Code-name is *Agouti* Lacépède, Tableau p. 9, 1799. Same genotype.

Synonyms.—*Paca* G. Fisch., Zoognosia, v. 3, p. 85, 1814; *Ostocopera* Harlan, Faun. Amer., p. 126, 1825. Other synonyms of the genus are all modifications of the word *Coclogenyis*.

(9) *Chiromys*. Name Advocated by Appellants.—*Chiromys*. Emended and commonly used form of *Cheiomys* G. Cuvier, Leçons Anat. Comp. 1, tabl. 1, 1800. (Not *Chicomys* as stated by Palmer.) *Chiromys* Illiger, Prodr. Syst. Mamm., p. 75, 1811.

Genotype.—*Sciurus madagascariensis* Gmelin, in Linn., Syst. Nat., v. 1, p. 152, 1788. Type locality Madagascar.

Code-Name.—*Daubentonia* E. Geoffroy, Dec. Phil. Lit., v. 4, p. 195, 1795. Same genotype.

Synonyms.—*Scolocophagus* E. Geoffroy, 1795; *Aye-Aye* Lacépède, 1799; *Myspithicus* Blainville, 1830; *Myslemur* Blainville, 1846. All with same genotype.

(10) *Dasybus*. Application Advocated by Appellants.—*Dasybus* Linn. s. n., p. 50, 1758a, to be applied to the Six-Banded Armadillo and its allies, with genotype *D. sexcinctus* Linn., 1758a, p. 51.

Code Application.—*Dasybus* for the *Tatous*, with genotype *D. novemcinctus*, id. l. c.

Synonyms.—For the *sexcinctus* group, *Euphractus* Wagl., 1830. For the *Tatous*—*Tatu* Blumenb., 1779; *Tatusia* Less., 1827; *Praopus* Burm., 1854.

(11) *Dicotyles*. Name and Genotype Advocated by Appellants.—*Dicotyles* G. Cuv., Règne Anim., p. 237, 1817, with genotype *Dicotyles torquatus* G. Cuvier l. c. (*Sus tajacu* Linn.) the Collared Peccary, and *Tayassu* G. Fisch., Zoognosia, v. 3, p. 284, 1814, with genotype *Tayassu pecari* Fisch., t. c., p. 285, 1814. The White-lipped Peccary.

(12) *Galeopithecus*. Name Advocated by Appellants.—*Galeopithecus* Pallas, Act. Ac. Petrop., p. 208, 1780.

Genotype.—*Lemur volans* Linn., from Luzon.

Code-Name.—*Cynoccephalus* Bodd., Dierkundig Mengelwerk, v. 2, p. 8, 1768. Same genotype.

Synonyms.—*Galeopus* Raf., 1815; *Dermopterus* and *Pleuropterus* Burnett, 1829; *Colugo* Gray, 1870. All with same genotype.

(13) *Hapale*. Name Advocated by Appellants.—*Hapale* Illiger, Prodr. Syst. Mamm., p. 71, 1811. Genotype *Simia jacchus* Linn.

Code-Name.—*Callithrix* Erxleben, Syst. Regn. An., p. 55, 1777. Same genotype.

Synonyms.—*Sagouinus* Kerr, 1792; *Sagouin* Lacépède, 1799; *Jacchus* E. Geoffroy, 1812. All with the same genotype.

(14) *Rhytina*. Name Advocated by Appellants.—*Rhytina* emended form of *Rytina* Illiger, Prodr. Syst. Mamm., p. 141, 1811. *Rhytina* Gloger, Naturg. p. 165, 1841.

Genotype.—*Trichechus manatus borealis* Gmel., Linn. Syst. Nat., p. 60, 1788.

Code-Name.—*Hydrodamalis* Retzius, K. Vet. Acad. Handl., 1794, p. 292; *Manati* Zimm., Geogr. Gesch., v. 2, p. 426, 1780. Same genotype.

Synonyms.—*Sirene* Link, 1794 (type *borealis*); *Nepus* G. Fisch., 1814 (type *stelleri*); *Stellera* Bow., 1821 (type *Trichechus manatus borealis*); *Haligyna* Pillb., 1828.

(15) *Simia satyrus* Linn., 1758a, 25. Application Advocated by Appellants.—*Simia satyrus* to the Orang Utan, whose Code-name is said to be *Pongo*, instead of—

Code-Application. To the Barbary Ape (*Macaca sylvana*).

Group D.—Report Adverse for Suspension by Commissioner Allen, Favorable for suspension by Secretary. (16) *Manatus*.

(16) *Manatus*. Name Advocated by Appellants.—*Manatus* Brünnich, Zoologiae Fundamenta, p. 34, 38, 1772. Type *Trichechus manatus* Linn., Syst. Nat. p. 34, 1758a. Type locality West Indies.

Code-Name.—*Trichechus* Linn., Syst. Nat., p. 34, 1758a. Same genotype.

Synonyms. *Oxystomus* G. Fisch., 1803; *Halipaedisca* Gistel, 1848. Same genotype.

For the present, no good purpose can be served by publication of the arguments for and against suspension.

In view of the importance of the cases and the great diversity of opinion, the Secretary has considered it essential to obtain a total of 18 votes in the case of each one of the names. The realization of this policy has been exceedingly difficult because of the World War and the extensive amount of data under consideration. After about 11 years the Secretary is now able to present 18 votes on each case; but as some of the Commissioners refrained from voting on individual cases it has been necessary to supplement the first 18 voting sheets returned by counting in the vote of a nineteenth Commissioner, Neveu-Lemaire, in seven instances, in order to make up a total of 18 votes. If the parliamentary point be raised that the Secretary's policy in this respect is open to objection, the reply is that if Commissioner Neveu-Lemaire's vote be omitted from consideration the ultimate result is not affected.

The final results of the vote are as follows:

1st, no name in the list receives a unanimous vote for suspension; accordingly the Commission is without power to suspend the Rules in these cases.

2nd, the following names receive a two-thirds majority or more in favor of suspension: *Cercopithecus*, *Gazella*, *Hippotragus*, *Lagidium*, *Nycteris*, and *Manatus*. Accordingly, pursuant to the Plenary Power provisions (see Proceedings 9th International Zoological Congress, Monaco (1913) 1914, pp. 890-891, §114; reprinted also p. 40, Opinion 76) it becomes incumbent upon the Secretary to report these six names for final action to the section on nomenclature of the next international zoological congress.

§114 reads as follows:

Resolved, That in the event that a case reaches the Congress, as hereinbefore described, with two-thirds majority of the Commission in favor of suspension, but without unanimous report, it shall be the duty of the President of the section on nomenclature to select a special board of 3 members, consisting of one member of the Commission who voted on each side of the question and one ex-member of the Commission who has not expressed any public opinion on the case; and this special board shall review the evidence presented to it, and its report, either majority or unanimous, shall be final and without appeal, so far as the Congress is concerned.

3d, the following ten names fail to receive a two-thirds vote in favor of suspension and therefore it becomes incumbent upon the Secretary to report that suspension is not authorized for them and that the Rules are to be applied to them: *Echidna*, *Anthropopithecus*, *Coclogenus*, *Chiromys*, *Dasybus*, *Dicotyles*, *Galeopithecus*, *Hapale*, *Rhynchina*, and *Simia*.

In order that zoologists interested in these cases may know the exact status of the votes, these are appended in tabular form. + signifies favorable to suspension, o unfavorable to suspension, and ? not voting.

Report prepared by Secretary.

Note by Secretary: During the final proof-reading of this Opinion, based on the report by Commissioner Allen, additional data have been obtained by the Secretary which persuade him that it is by no means clear, under the Rules, that (1) *Cercopithecus* should be transferred to the Tamarin Marmosets, or that (15) *Simia* should be transferred to the Barbary Ape. The premises appear to be incomplete and the cases require careful restudy before these changes are adopted.

	Totals		Allen	Annandale	Apstein	Bather	Dabbene	Handlirsch	Harteri	Horvath	Hoyle	Jordan, D. S.	Jordan, K.	Kolbe	Loenmberg	Monticelli	Neveu-Lemaire	Skinner	Stejneger	Stiles	Warren
	For	Against																			
1. <i>Cercopithecus</i>	16	2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	:	+	+	+	+
2. <i>Gazella</i>	16	2	+	+	+	+	0	+	+	+	+	+	+	+	+	+	:	+	+	+	+
3. <i>Hippotragus</i>	14	4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	:	+	+	+	+
4. <i>Lagidium</i>	16	2	+	+	+	+	0	+	+	+	+	+	+	+	+	+	:	+	+	+	+
5. <i>Nycterus</i>	16	2	+	+	+	+	0	+	+	+	+	+	+	+	+	+	:	+	+	+	+
6. <i>Echidna</i>	8	10	0	+	+	+	0	+	0	+	0	+	0	+	+	+	+	0	0	0	+
7. <i>Anthropopithecus</i> ...	9	9	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
8. <i>Coelogenus</i>	10	8	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
9. <i>Chironomys</i>	9	9	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
10. <i>Dasytus</i>	9	9	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
11. <i>Dicotyles</i>	10	8	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
12. <i>Galeopithecus</i>	10	8	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
13. <i>Hapale</i>	9	9	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
14. <i>Rytina</i>	9	9	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
15. <i>Simia</i>	10	8	0	+	+	+	0	+	0	+	+	0	0	+	+	+	+	0	0	0	+
16. <i>Manatus</i>	13	5	0	+	+	+	0	+	0	+	+	+	+	+	+	+	:	+	+	+	+

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COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 91 TO 97



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OPINIONS 91 TO 97



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OPINIONS 91 TO 97

OPINION 91

THIRTY-FIVE GENERIC NAMES OF MAMMALS PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Names: *Alces*, *Arvicola*, *Ateles*, *Bison*, *Bradypus*, *Canis*, *Capra*, *Cebus*, *Cervus*, *Choloepus*, *Condylura*, *Cricetus*, *Crocidura*, *Cystophora*, *Dasyprocta*, *Didelphis*, *Erethizon*, *Felis*, *Gulo*, *Halichoerus*, *Lepus*, *Lynx*, *Mus*, *Myrmecophaga*, *Nasua*, *Oryzomys*, *Phyllostomus*, *Procyon*, *Putorius*, *Rangifer*, *Rhinolophus*, *Rupicapra*, *Sciurus*, *Sorex*, *Vespertilio*.

STATEMENT OF CASE.—Commissioner Apstein (1915a, pp. 198-202) has proposed the following generic names of mammals as nomina conservanda:

Alces Gray, 1821, 307, tat. *Cervus alces* Linn., 1758a, 66.
Arvicola Jac., 1799, 10, type *Mus amphibius* Linn., 1758a, 61.
Ateles Geoffr., 1806, 262, type *Simia paniscus* Linn., 1758a, 26.
Bison Smith, II., 1827, 373, tat. *Bos bison* Linn., 1758a, 72.
Bradypus Linn., 1758a, 34, type *B. tridactylus* Linn., 1758a, 34.
Canis Linn., 1758a, 38, type *C. familiaris* Linn., 1758a, 38.
Capra Linn., 1758a, 48, type *C. hircus* Linn., 1758a, 48.
Cebus Erxl., 1777, 44, type *Simia capucina* Linn., 1758a, 29.
Cervus Linn., 1758a, 66, type *C. elaphus* Linn., 1758a, 67.
Choloepus Ill., 1811, 108, type *Bradypus didactylus* Linn., 1758a, 35.
Condylura Ill., 1811, 125, type *Sorex cristatus* Linn., 1758a, 53.
Cricetus Leske, 1779, 168, tat. *Mus cricetus* Linn., 1758a, 60.
Crocidura Wagl., 1832, 275, type *Sorex leucodon* Herm., 1780, 382.
Cystophora Nills., 1820, 382, type *Phoca cristata* Erxl., 1777, 590.
Dasyprocta Ill., 1811, 93, type *Mus aguti* Linn., 1766, 80.
Didelphis Linn., 1758a, 54, type *D. marsupialis* Linn., 1758a, 54.
Erethizon Cuv., 1822, 432, type *Hystrix dorsata* Linn., 1758a, 57.
Felis Linn., 1758a, 41, type *F. catus* Linn., 1758a, 42.
Gulo Pallas, 1780, 25, tat. *Mustela gulo* Linn., 1758a, 45.
Halichoerus Nilk., 1820, 376, type *Phoca grypus* Fabr., 1791, 167.
Lepus Linn., 1758a, 57, type *L. timidus* Linn., 1758a, 57.

- Lynx* Kerr, 1792, 32, tat. *Felis lynx* Linn., 1758a, 43.
Mus Linn., 1758a, 59, type *M. musculus* Linn., 1758a, 62.
Myrmecophaga Linn., 1758a, 35, type *M. tridactyla* Linn., 1758a, 35.
Nasua Storr, 1780, 35, tat. *Viverra nasua* Linn., 1766, 64.
Ovibos Blainv., 1816, 76, type *Bos moschatus* Zimm., 1780, 86.
Phyllostomus Lac., 1799, 16, type *Vespertilio hastatus* Pall., 1767, 7.
Procyon Storr, 1780, 35, type *Ursus lotor* Linn., 1758a, 48.
Putorius Cuv., 1817, 147, tat. *Mustela putorius* Linn., 1758a, 46.
Rangifer Smith, H., 1827, 304, type *Cervus tarandus* Linn., 1758a, 67.
Rhinolophus Lac., 1799, 15, type *Vespertilio ferrum-equinum* Schreb., 1774, 174, pl. 62.
Rupicapra Blainv., 1816, 75, tat. *Capra rupicapra* Linn., 1758a, 68.
Sciurus Linn., 1758a, 63, type *S. vulgaris* Linn., 1758a, 63.
Sorex Linn., 1758a, 53, type *S. araneus* Linn., 1758a, 53.
Vespertilio Linn., 1758a, 31, type *V. murinus* Linn., 1758a, 32.

DISCUSSION.—Dr. G. S. Miller, of the United States National Museum, has studied these names from the standpoint of the International Rules and he reports that in his opinion they are available and valid under the rules. Accordingly, it is not necessary to adopt them as “nomina conservanda” under suspension of the rules, but they appear to be eligible for the official list in their own right.

The names have been published in several scientific journals for the information of zoologists and no objection of any kind has been received by the Secretary to these names.

In view of the foregoing data, the Secretary recommends that the 35 names in question be placed in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Handlirsch, Hartert, Horvath, Jordan, D. S., Jordan, K., Kolbe, Loennberg, Monticelli, Skinner, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, four (4) Commissioners: Dabbene, Dautzenberg, Hoyle, Stejneger.

OPINION 92

SIXTEEN GENERIC NAMES OF PISCES, AMPHIBIA, AND REPTILIA
PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: PISCES: *Blennius*, *Echeneis*, *Esox*, *Ophidion*. AMPHIBIA: *Cryptobranchus*, *Desmognathus*, *Siren*. REPTILIA: *Alligator*, *Calamaria*, *Chelydra*, *Crotalus*, *Dermochelys*, *Eremias*, *Lacerta*, *Mabuya*, *Phrynosoma*.

STATEMENT OF CASE.—Commissioner Apstein (1915a, pp. 190-192) has proposed the adoption of the following generic names of Pisces, Amphibia, and Reptilia, as "nomina conservanda."

PISCES

Blennius Linn., 1758a, 256, type *B. ocellaris* Linn., 1758a, 256.

Echeneis Linn., 1758a, 260, type *E. naucrates* Linn., 1758a, 261.

Esox Linn., 1758a, 313, type *E. lucius* Linn., 1758a, 314.

Ophidion Linn., 1758a, 259, type *O. barbatum* Linn., 1758a, 259.

AMPHIBIA

Cryptobranchus Leuck., 1821, 259, mt. *Salamandra gigantea* Barton = *alleganiensis* Daud., 1803, 231 = *alleghaniensis* Harlan, 1825, 233.

Desmognathus Baird, 1849, 282, type *Triturus fuscus* Raf., 1820, 4.

Siren Linn., 1766, addenda, mt. *S. lacertina* Linn., 1766, addenda.

REPTILIA

Alligator Cuv., 1807, 25, type *Crocodylus mississippiensis* Daud., 1803, v. 2, 412.

Calamaria Boie, 1827, 236, tat. *Coluber calamaria* Linn., 1758a, 216.

Chelydra Schweigg., 1812, 292, mt. *Testudo serpentina* Linn., 1758a, 199.

Crotalus Linn., 1758a, 214, type *C. horridus* Linn., 1758a, 214.

Dermochelys Blainv., 1816, 119, type *Testudo coriacea* Linn., 1766, 350.

Eremias Wieg., 1834, 9, type *Lacerta velox* Pall., 1771, 457.

Lacerta Linn., 1758a, 200, type *L. agilis* Linn., 1758a, 203.

Mabuya Fitz., 1826, 23, type *Scincus sloanii* Daud., 1803, v. 4, 287.

Phrynosoma Wieg., 1828, 367, type *Lacerta orbiculare* Linn., 1758a, 206.

DISCUSSION.—The 4 names of fishes have been studied by Commissioner David Starr Jordan from the standpoint of the International Rules, and he reports that they are valid under the rules.

The 3 names of Amphibia and the 9 names of Reptilia have recently been studied by Commissioner Stejneger from the standpoint of the International Rules and he reports that they are valid under the rules.

The names of the Amphibia have also been studied by Dr. Arthur E. Brown (Proceedings Academy Natural Science, Philadelphia, 1908) and he adopts them.

All of these names have been published in certain zoological journals for the information of zoologists, and in order to give members of the profession the opportunity to express their opinion for or against them. Not a single objection to any one of these names has reached the Secretary's office.

In view of the foregoing premises the Secretary recommends that the names in question, with types cited, be placed in the Official List of Generic Names.

Opinion prepared by Stiles.

Opinion concurred in by ten (10) Commissioners: Apstein, Horvath, Jordan, D. S., Jordan, K., Kolbe, Loennberg, Monticelli, Skinner, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, seven (7) Commissioners: Bather, Dabbene, Dautzenberg, Handlirsch, Hartert, Hoyle, Stejneger.

OPINION 93

TWELVE GENERIC NAMES OF FISHES PLACED IN THE OFFICIAL
LIST, BY SUSPENSION OF THE RULES

SUMMARY.—The following 12 generic names of fishes are herewith placed in the Official List of Generic Names, under the Plenary Power for Suspension of the Rules: *Conger* Cuv., 1817 (*Muraena conger* L.); *Coregonus* Linn., 1758 (*Salmo lavaretus* L.); *Elcotris* Bloch & Schneider, 1801 (*gyrinus* Cuv. & Val.); *Epinephelus* Bloch, 1792 (*marginalis* Bloch); *Gymnothorax* Bloch, 1795 (*reticularis* Bloch); *Malapterurus* Lacépède, 1803 (*Silurus electricus* L.); *Mustelus* Linck, 1790 (*Squalus mustelus* L. [= *Mustelus laevis*]); *Polynemus* Linn., 1758 (*paradisacus* L.); *Sciaena* Linn., 1758 (*umbra* L. = *Cheilodipterus aquila* Lacép. as restr. by Cuvier, 1815); *Serranus* Cuv. (*Perca cabrilla* L.); *Stolephorus* Lacép., 1803 (*commersonianus* Lacép.); *Tcuthis* Linn., 1766 (*jacus* L.).

Names now current are not to be discarded unless the reasons for change show a clear-cut necessity.

STATEMENT AND DISCUSSION OF CASE.—The following cases are submitted and discussed by Commissioner David Starr Jordan. The U. S. Bureau of Fisheries (signature H. F. Moore, Acting Commissioner) concurs in the recommendations regarding them.

It seems to me that a legitimate use of the plenary power will be to cast it on the side of names now current unless the reason for change is a clear-cut necessity, priority of actual date for example. But in cases where a reasonable argument on both sides exists, it seems better to give current nomenclature the preference.

The earlier writers had no conception of genotype, regarding a genus merely as a convenient pigeon-hole in which to stow species, to be more or less arbitrarily divided when the receptacle became too full or its contents too obviously incongruous. In applying the rule of the first reviser, we find many difficulties as every taxonomist knows. Often a name has been dislocated by application to a species unknown to the original author. Often a wiser or more characteristic choice could have been made; still more often a writer mentions a given species not as a type, but rather as an illustration. And it is a rare case where a designated type among the early authors can be "rigidly construed" as indicated in accepted rules.

I now ask the Commission to consider stabilizing current nomenclature in a number of genera of fishes, in which the pertinence of current nomenclature has been questioned, for reasons more or less plausible, but in no case beyond question.

I propose that, subject to possible new information, the following current generic names be provisionally legalized with the type species indicated, notwithstanding certain contrary arguments of greater or less validity, but in no case clear-cut and conclusive.

AETOBATUS Blainville, 1816: type *Raja narinari* Euphrasen.

The name *Aëtobatus* was applied by Blainville to the Eagle Rays, of which *Raja aquila* L. = *Aëtobatus vulgaris* Blainville would be the natural type. But as the genus *Myliobatis* (Duméril) Cuvier, 1817, had been established also for the Eagle Rays, the first reviser, Müller & Henle adopted both names, assigning *R. aquila* to *Myliobatis* and an unwonted type, *R. narinari* to *Aëtobatus*. From this arrangement Cantor (1849) dissented making *Myliobatis* a synonym of *Aëtobatus* and giving a new name, *Stoasodon* to *R. narinari*. It will create less confusion, however, to let the first revision stand, accepting *R. narinari* as type of *Aëtobatus*.

CONGER Cuvier, 1817: type *Muraena conger* L.

The name *Leptocephalus* was given by Gronow, a non-binomial author, in 1763 to a translucent ribbon-like larva, now shown to be that of the Conger Eel. In binomial nomenclature, this name dates from its adoption by Scopoli in 1777. The name *Conger*, used by Houttuyn in 1764, is said not to be available, although noted as such in Jordan, *Genera of Fishes*, p. 22.

As *Leptocephalus* and its derivatives have been in use for more than a century as the designation of these peculiar larvae I recommend that this use be continued and that the generic name of the Conger eels be established as *Conger*, in accordance with current usage.

[Apstein, 1915a, 187: *Conger* Cuv., 1817, type *vulgaris* Richards, 1844.]

COREGONUS Linnaeus, 1758: type *Salmo lavaretus* L.

The generic name *Coregonus*, taken from Artedi, is given by Linnaeus in the plural form only as *Coregoni*. The sub-generic names *Truttae* (*Salmo trutta*), *Osmerus* (*Salmo eperlanus*) and *Characinus* (*Salmo gibbosus*) appear in the same fashion as plurals. To reject these names in almost universal use, to substitute some possible later synonym would be a source of needless confusion. I recommend that these plural nouns be maintained as valid.

[Apstein, 1915a, 187: *Coregonus* Cuv., 1817, type *wartmanni* Bl., 1784.]

ELEOTRIS Bloch and Schneider, 1801: type *Eleotris gyrinus* Cuv. & Val.

The generic name *Eleotris* first appears in Gronow, *Zoophylaceum* p. 183, 1763, with a good description and three species polynomially named, the name *Eleotris* being especially associated with a Chinese species, *Gobius eleotris* L., *Gobius chinensis* Osbeck. The other, apparently a true "*Eleotris*" was named *Gobius pisonis* by Gmelin (1789), and *Gobius amorea* by Walbaum (1792).

The first binomial author to revive the name *Eleotris* is Schneider in his edition of Bloch. The genus is here nominally equivalent to *Gobius*, the ventral fins being described as "connexae," a statement true of some of the species named but not of the *Eleotris* of Gronow. No species belonging to the genus *Eleotris* as now understood is included, though reference is made to *Eleotris pisonis* as a "species non definienda."

Meanwhile the *Amore Pixuma* of Maregrave's pre-Linnaean *Historia Naturalis Brasiliae* edited by Dr. Wilhelm Piso is brought into the synonymy. This is a crude figure of some small goby with two dorsal fins, perhaps an *Elcotris*, but not the actual type of any specific name.

In 1800, Lacépède established a genus *Gobiomoroides* on a dried fish "sent by Holland to France," which he identified as *Gobius pisonis*, naming it *Gobiomoroides piso*. It could, however, not be either *Elcotris pisonis* or "*Amore pixuma*" as it had a single dorsal of 45 rays and canine teeth. It was probably not a goby, and the name cannot be used for *Elcotris*.

Elcotris next appears with Cuvier (*Règne Animal* 1, 257, 1817) who accepts the name from Gronow, and gives a correct definition. His types are specimens from Levaillant taken in Surinam. The species described by Cuvier and Valenciennes as *Elcotris gyrynus* later authors have generally regarded as the type of *Elcotris*. It is identified by Jordan & Evermann with *Gobius pisonis* Gmelin.

We have apparently two alternatives in case Gronow's names, "binary" but not binomial, are not accepted.

(1) We may use the name *Elcotris* as dating from Schneider, taking *Gobius pisonis* Gmelin, waiving the fact that this is a "species non definienda" in Schneider's conception—thus stabilizing current nomenclature.

(2) We may apply the name *Elcotris* to some one of the species enumerated by Schneider, thus arbitrarily displacing one of the following well-established names: *Valenciennesa*, *Nomcus*, *Apocryptes*, *Hypselcotris*, *Boleophthalmus* or *Pomatomus*, genera of later date included in the incoherent mass.

Convenience as well as justice is served by adopting the first alternative, using the name *Elcotris* in the sense of Gronow and Cuvier with *Gobius pisonis* as the type.

The name *Gobiomoroides* has no place in this connection, and its type is as yet unidentified.

EPINEPHELUS Bloch, 1792: type *Epinephelus marginalis* Bloch.

The genus *Epinephelus* was based on *E. afer*, *E. marginalis*, *E. merra*, and *E. ruber*: *marginalis* and *merra* are congeneric, and belong to the great group called *Epinephelus* by Gill, Bleeker, and nearly all recent authors. Of these, *marginalis* is typical. The species named first, *afer*, has been on that account chosen as type by Fowler. This species was separated as the type of *Alphestes* by Bloch & Schneider, 1801; *ruber* was named as type by Jordan & Gilbert, in 1882, who supposed it to be congeneric with *marginalis* and this species under another name (*acutirostris* Cuv. & Val.) became the type of *Parcypinephelus* Bleeker, 1875. Justice and convenience are best served by retaining the name *Epinephelus* for its chief components, typified by *E. marginalis*, as understood by nearly all authors. Otherwise the genus would stand as *Cerna* Bonaparte, 1837, unless, with Fowler, we recognize *Epinephelus gigas* (*Perca gigas*) L. as the type of *Serranus* Cuvier, 1817, a change I think unnecessary.

GYMNOTHORAX Bloch, 1795: type *Gymnothorax reticularis* Bloch.

As originally given, *Gymnothorax* was simply a substitute name for *Muraena* L. Later, in dividing this extensive genus, Bleeker and after him Günther used the name *Gymnothorax* for one of its great divisions, and this arrangement has been largely followed. The first fixation of type may be held to separate *Gymnothorax* from *Muraena*, and I think that the use of the former name

should be preferred to the later *Lycodontis* McClelland based on one of the species of *Gymnothorax*. The case for the use of *Gymnothorax* is stated in Jordan, Genera of Fishes p. 168, that for its suppression on p. 53.

LAMPETRA Gray, 1851: type *Petromyzon fluviatilis* L.

The type of *Ammocoetus* Duméril, 1806, *Petromyzon planeri*, is a larval lamprey of uncertain genus, and the name may be preferably used (as *Ammocoetes*) as the designation for larval lampreys; while *Lampetra*, the earliest name based on *Petromyzon fluviatilis* L. may be retained.

MALAPTERURUS Lacépède, 1803: type *Silurus electricus* L.

In 1775, Forskål discovered the Electric Catfish of the Nile (*Silurus electricus* L.), which he confused with the Electric Ray (*Raja torpedo* L.) and which seemed to him to justify generic separation from *Raja*. He questions whether it might be allied to *Mormyrus* or whether it might find a place among the torpedoes of Rondelet, or might it be type of a new genus. "Aut potius novum constituere genus. Certe determinatur torpedinis *Character Genericus*: Piscis branchiostegus: apertura lineari, obliqua supra pinnae pectorales; corpore nudo; pinnis ventralibus seu abdominalibus; dentibus numerossissimis densis, subulatis." This statement leaves no question as to the species in mind.

In view of the confusion in Forskål's account, and the uncertain fashion in which he describes the supposititious new genus, I suggest that the current use of *Torpedo* for the Electric Ray and *Malapterurus* for the Electric Catfish be approved.

[Apstein 1915a, 188: *Malapterurus* Lacép., 1803, type *electricus* Gmel., 1788.]

MUSTELUS Linck, 1790: type *Squalus mustelus* L. (= *Mustelus laevis*).

The generic name *Mustelus* has been applied to a genus of sharks, typified by *Squalus mustelus* L. by several authors (Linck, 1790; Leach, 1812; Fischer, 1813; and Cuvier, 1817). This Linnaean species is however based on references to both the two European species of this group, now usually regarded as belonging to different genera or subgenera. These have been usually called *Mustelus laevis* Risso, the "smooth hound" and *Mustelus stellatus* Risso (*canis*), the "spotted hound." Those of the early writers who recognized these fishes failed to use the specific name *mustelus* for either, or else applied it to both.

Linck, the earliest writer to propose the name *Mustelus*, however, distinctly mentions *Mustelus laevis* as a synonym of *Squalus mustelus* L. and as his type, a fact which must fix the name *Mustelus mustelus* on the "Smooth Hound." The name thus replaces *Pleuracromylon* Gill, *Galeus* Rafinesque (as restricted by Jordan and Evermann, to *S. mustelus* L.) is also a synonym of *Mustelus*.

The genus containing the "Spotted Hound" should then stand as *Cynias* Gill, the type species standing as *Cynias canis* (Mitchill).

Valmont de Bomare, 1768, speaks of the "Spotted Hound" as "*Galeus asterias* aut *Mustelus stellaris*; chien de mer à taches rondes." But this binomial combination is merely a Latin translation of the French, certainly not intended as a scientific name.

Garman (*Plagiostomia*, 1913) rejects the name *Mustelus* altogether, because of its similarity to *Mustela*. But *Mustela* is a weasel and *Mustelus* a shark, a case parallel to that of *Pica* and *Picus*.

[Apstein, 1915a, 188: *Mustelus* Cuv., 1817, type *vulgaris* J. Müll. & Henle, 1841.]

POLYNEMUS Linnaeus, 1758: type *Polynemus paradisacus* L.

The first real restriction seems to be that of Günther, Cat. Fishes, II, 1860, 319. No type is specified, but the non-congeneric species, *P. quinquarius* L., is removed to form the genus *Pentacnemus*, a name originally employed by Artedi, but changed to *Polynemus* by Gronow. As this species, *quinquarius*, was the only one known to Artedi or to Gronow, Dr. Gill, with numerous writers, ourselves included, has regarded it as the type of *Polynemus*. But common usage with the formal selection of *P. paradisus* L. as type by the first reviser, Jordan & Gilbert, Synopsis Fishes, 1882, should prevail.

SCIAENA Linnaeus, 1758: type *Sciaena umbra* L. = *Cheilodipterus aquila* Lacépède, as restricted by Cuvier, 1815.

Sciaena umbra of Linnaeus was a complex species made up of the later *Sciaena aquila* Lacépède and *Corvina nigra* (Bloch); *umbra* is the natural type of *Sciaena*, but its component parts are not congeneric. The two species were confused until Cuvier (Mém. du Muséum, 1815, and later in the Règne Animal, Edition II, 1829) made clear the difference and definitely chose *aquila* as the type of *Sciaena*. Jordan & Evermann have adopted *Corvina nigra*, under the name of *Sciaena umbra*, as type of *Sciaena*. An argument can be made for either arrangement, but convenience is best served and probably justice also by accepting the name *umbra* for the species called *aquila* and recognizing this as type of *Sciaena*. The two species concerned should then stand as *Sciaena umbra* L. and *Corvina nigra* (Bloch). Bleeker has chosen as type *Sciaena cirrosa*, the species placed first as the type of *Umbrina* Cuvier, but this arrangement is not the first revision.

[Apstein, 1915a, 189: *Sciaena* L., 1758, type *aquila* Risso, 1826.]

SERRANUS Cuvier: type *Perca cabrilla* L.

In proposing the generic name *Serranus*, Cuvier speaks of the species of the genus as "*les serrans*," "leur nom sur plusieurs côtes du Méditerranée." "La Méditerranée en produit beaucoup, dont les plus communes s'y confondent sous les noms vulgaires de *perche de mer*, de *serran*, etc., et sont fort remarquables par la vivacité de leurs couleurs surtout à l'époque de l'amour."

These *Serrans* thus designated are obviously the species still called by that name, *Serranus cabrilla* and *Serranus scriba* of authors. But Cuvier neglects to mention either by its scientific name. In a further paragraph he mentions in *Serranus*, another species "beaucoup plus grand," *Holocentrus gigas* Schneider, which is a species of *Epinephelus*. For this reason, Fowler (Proc. Acad. Nat. Sci. Phila. 1907, 266) has taken *gigas* as the type of *Serranus*, thus replacing *Epinephelus* of authors, which name he leaves to *Alphestes afer*. No other writer has taken this view of the case, and I recommend the approval of the current nomenclature, regarding *Perca cabrilla* L. as the genotype of *Serranus*.

[Apstein, 1915a, 189: *Serranus* Cuv., 1829, type *scriba* L., 1758.]

STOLEPHORUS Lacépède, 1803: type *Stolephorus commersonianus* Lacépède.

Under the head of *Stolephorus*, Lacépède (Hist. Nat. Poiss. V. 381, 1803) mentions two species, the first the *Atherina japonica* of Houttuyn, the second his own *S. commersonianus*. From the latter he derives his description, and on the latter Bleeker bases the genus *Stolephorus* as largely accepted. The *Atherina japonica* is very briefly and incorrectly described by Houttuyn, and it has been taken for granted that it was congeneric with the other, and being the first species named, it was indicated as type of the genus by Jordan & Evermann in 1896. It is probable, however, that Houttuyn had in mind the species of another family, named by Bleeker, *Spratelloides argyrotaenia*. In 1917 (Genera of Fishes, 67) the present writer gave reasons for retaining *A. japonica* as type of *Stolephorus*, thus replacing *Spratelloides* Bleeker, while *Stolephorus* of Bleeker and authors generally would stand as *Anchoviella* Fowler. But it would make far less confusion as well as secure substantial justice to retain *Stolephorus* for the large group of which *S. commersonianus* is typical.

TEUTHIS Linnaeus, 1766: type *Teuthis japus* L.

In the twelfth edition of the *Systema Naturae*, Linnaeus introduces the genus *Teuthis*, with two species, *Teuthis hepatus* and *Teuthis japus*. These species under polynomial names constitute the genus *Hepatus*, of the non-binomial Zoophylaceum of Gronow, 1763. The name *Teuthis* was taken from Browne (Jamaica), 1756, a pre-Linnaean writer, whose type was congeneric with that of Forskål's *Acanthurus*.

The two Linnaean species of *Teuthis* are but distantly related, a fact recognized by various subsequent writers. In 1775, the relatives of *hepatus* were set off by Forskål as *Acanthurus*, those of *japus* as *Siganus*. Cuvier used *Teuthyes* as a group name covering both types, the one being called *Acanthurus*, the other, after Bloch and Schneider, 1801, *Amphacanthus*.

The first author after Linnaeus to use *Teuthis* as a generic name was Cantor, 1849. It here replaces *Siganus*, with a correct definition and the Linnaean species *Teuthis japus*, placed at the head of the series.

In this usage, Günther and all European writers have followed, and although the word "type" is not mentioned by Cantor, the arrangement will bear rigorous interpretation.

Later Gill showed reasons why *Teuthis hepatus* should have been taken as type, *Teuthis* being a re-naming of *Hepatus* of Gronow, by reverting to the still earlier name of Browne. There is room for argument on both sides, but inasmuch as the first reviser (Cantor) selected *Teuthis japus* as type of *Teuthis* and current nomenclature outside of America uses *Acanthurus* for *hepatus* and its relatives and *Teuthis* instead of *Siganus*, I recommend that this course be approved by the Commission. In my own papers I have lately followed the suggestion of Dr. Gill, replacing the familiar *Acanthurus* by *Teuthis* or by *Hepatus*, reviving *Siganus* for the *japus* group. I am inclined to think this change unnecessary as it was certainly confusing, and that to follow Cantor is in better accord with established rules.

Opinion prepared by Commissioner David Starr Jordan.

Report on final vote: Two names *Aëtobatus* and *Lampetra* have been tabled without prejudice pending further discussion at the next

meeting of the Commission. The other 12 names are unanimously adopted by a vote of 13 to 0.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Handlirsch, Hartert, Horvath, Jordan, D. S., Jordan, K., Loennberg, Monticelli, Neveu-Lemaire, Skinner, Stiles, and Warren.

Opinion dissented from by no Commissioner.

Not voting, four (4) Commissioners: Dabbene, Hoyle, Kolbe, and Stejneger.

OPINION 94

TWENTY-TWO MOLLUSK AND TUNICATE NAMES PLACED IN THE
OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: MOLLUSCA: *Anodonta*, *Argonauta*, *Buccinum*, *Calyptraca*, *Columbella*, *Dentalium*, *Helix*, *Limax*, *Macra*, *Mya*, *Mytilus*, *Ostrca*, *Physa*, *Sepia*, *Sphaerium*, *Succinea*, *Teredo*. TUNICATA: *Botryllus*, *Clavelina*, *Diazona*, *Distaplia*, *Molgula*.

STATEMENT OF CASE.—In Circular Letter No. 78, March, 1924, the Secretary submitted 39 generic names which had been proposed by Commissioner Apstein (1915a, pp. 181-184) as "nomina conservanda." These names were studied independently, especially by Dr. Bartsch of the United States National Museum and by Mr. B. B. Woodward of London, England. Several other specialists were also kind enough to consider the names, and the bibliographic references were checked in the Secretary's office. It appears from the reports reaching the Secretary's office that of these, 22 names are valid under the International Rules and that, therefore, they do not have to be adopted as "nomina conservanda" under "Suspension of the Rules."

Considerable correspondence has reached the Secretary in regard to the names.

DISCUSSION.—In regard to 22 of the names no objection of any kind has reached the Secretary. In regard to 17 of the names, objection of one kind or another has reached the Secretary and these 17 cases are tabled without prejudice for consideration at the next meeting of the Commission.

The following 22 names have not been objected to, and on this account and on basis of reports by specialists the Secretary recommends their inclusion in the Official List of Generic Names subject of course to the usual conditions:

Anodonta Lam., 1799, 87, mt. *Mytilus cygneus* Linn., 1758a, 706.

Argonauta L., 1758a, 708, type *A. argo* L., 1758a, 708.

Botryllus Gaert., 1774, 35, type *Alcyonium schlosseri* Pallas, 1766, 355, s.

Botryllus stellatus.

Buccinum L., 1758a, 734, type *B. undatum* L., 1758a, 740.

Calyptraca Lam., 1799, 78, mt. *Patella chinensis* L., 1758a, 781.

Clavelina Savig., 1816, 171, type *Ascidia lepadiformis* Müller, 1776a, 226.

Columbella Lam., 1799, 70, mt. *Voluta mercatoria* L., 1758a, 730.

Dentalium L., 1758a, 785, type *D. elephantinum* L., 1758a, 785.

Diazona Savig., 1816, 35, tod. *D. violacea* Savig., 1816, 35.

Distaplia Della Valle, 1881, 14, [mt. *D. magnilarva* Della Valle, not mentioned in 1881, 14-15, in Latin, but "grossa larva" given on p. 14, later (1882, 47) published in Latin].

Helix L., 1758a, 768, type *H. pomatia* L., 1758a, 771.

Limax L., 1758a, 652, type *L. maximus* L., 1758a, 652.

Mactra L., 1767, 1125, type *M. stultorum* L., 1767, 1126.

Molgula Forbes, 1848; 1853, 36, type *M. oculata* Forbes, 1848; 1853, 36.

Mya L., 1758a, 670, type *M. truncata* L., 1758a, 670.

Mytilus L., 1758a, 704, type *M. edulis* L., 1758a, 705.

Ostrea L., 1758a, 696, type *O. edulis* L., 1758a, 699.

Physa Drap., 1801, 31, type *Bulla fontinalis* L., 1758a, 727.

Sepia L., 1758a, 658, type *S. officinalis* L., 1758a, 658.

Sphaerium Scop., 1777, 397, type *Tellina cornua* L., 1758a, 678.

Succinea Drap., 1801, 32, type *Helix putris* L., 1758a, 774.

Turdo L., 1758a, 651, type *T. navalis* L., 1758a, 651.

Opinion prepared by Secretary.

Opinion concurred in by fourteen (14) Commissioners: Apstein, Bather, Dautzenberg, Handlirsch, Hartert, Horvath, Jordan, D. S., Jordan, K., Kolbe, Loennberg, Monticelli, Skinner, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, three (3) Commissioners: Dabbene, Hoyle, Stejneger.

OPINION 95

TWO GENERIC NAMES OF PROTOZOA PLACED IN THE OFFICIAL
LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names—PROTOZOA: *Endamocba*, *Trypanosoma*.

STATEMENT OF CASE.—1. Professor R. W. Hegner, of the Johns Hopkins School of Hygiene and Public Health, has recommended to the Helminthological Society of Washington, that the said Society bring to the attention of the International Commission on Zoological Nomenclature the following five generic names of important parasitic Protozoa, with a view to inserting them in the Official List of Generic Names. The Society has voted to support the names.

2. The Secretary of the Commission has studied all five of these cases in detail, and believes that they are nomenclatorially available and valid under the International Rules, and he recommends their adoption by the Commission.

3. The names are as follows:

Endamocba Leidy, 1879a, 300, mt. *blattae* Buetschli, 1878a, 273, t. h. *Blatta orientalis*.

Giardia Kunstler, 1882, CrAS, v. 95, 349, mt. *G. agilis* Kunstler, 1882, 349, in intestine of tadpole of *Rana*.

Trichomonas (Donné, 1837) Ehrenb., 1838a, 331 (emendation of *Tricomonas*), mt. *vaginalis* Donné, 1837.

• *Trypanosoma* Gruby, 1843a, 1134, mt. *T. sanguinis* Gruby, 1843a, Nov. 13, = *Amocba rotatoria* Mayer, 1843, in blood of *Rana*.

Balantidium Clap. & Lachm., 1858b, 247, mt. *Bursaria entofoon* Ehrenb., 1838b, 327.

4. Commissioner Apstein has proposed three of the foregoing names in his paper of 1915a, nomina conservanda, p. 122, as follows:

Balantidium Clap. & Lachm., 1858, type *coli* Malmst., 1857.

Trichomonas Donné, 1837, type *vaginalis* Donné, 1837.

Trypanosoma Gruby, 1843, type *sanguinis* Gruby, 1843.

5. Commissioner Apstein and the Secretary agree in all details in regard to *Trichomonas* and *Trypanosoma*. Apstein accepts *coli* as the type of *Balantidium*, but *Balantidium* 1858 was monotypic (*entofoon*), and C. & L. in the same paper classified *coli* as a *Plagiotoma*; accordingly under the Code, *coli* is excluded as type of *Balantidium*. Commissioner Apstein does not mention *Endamocba* or *Giardia*.

6. Report on Voting: *Endamoeba*, type *blattae*, and *Trypanosoma*, type *sanguinis=rotatoria*, received 14 affirmative votes and no vote in the negative.

Giardia, *Trichomonas* and *Balantidium* are tabled without prejudice. They will be discussed further at the next meeting of the Commission.

Opinion prepared by Stiles.

Opinion concurred in by fourteen (14) Commissioners: Annandale, Apstein, Bather, Handlirsch, Horvath, Jordan, D. S., Jordan, K., Kolbe, Loennberg, Monticelli, Neveu-Lemaire, Skinner, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, three (3) Commissioners: Dabbene, Hartert, Stejneger.

OPINION 96

MUSEUM BOLTENIANUM

SUMMARY.—The Commission accepts the Museum Boltenianum 1798 as nomenclatorially available under the International Rules.

STATEMENT OF CASE.—Dr. C. Tate Regan of London submits the following case for opinion:

Are the names in the *Museum Boltenianum* to be accepted?

Museum Boltenianum is the title of a catalogue of the shells, minerals, and objects of art collected by Dr. Bolten. It was printed in 1798, after his death, by his family, who wished to sell the collections. Failing in their object to sell the collections as a whole the catalogue was reprinted in 1819, when the title-page states it is a catalogue of the shells, minerals, etc., which will be openly sold by J. Noodt on April 26 at 10 o'clock in the morning.

Bolten had his own system of nomenclature of shells and to make his names intelligible to intending purchasers one Roeding was employed to add the names in Gmelin's Edition of Linnaeus.

There is no author's name on the catalogue. No indication that it was published, or sold.

It was, in fact, a sale catalogue, doubtless distributed to likely purchasers, but without other circulation.

Opinion 51 seems to apply.

DISCUSSION.—In Opinion 51 the Commission has frankly admitted the extreme difficulty of clearly defining the word "publication" and it has expressed the opinion "that in some cases it is an easier matter to take a specific paper and decide the individual case on its merits, than it is to lay down a general rule which will be applicable to all cases."

The Museum Boltenianum has been discussed by Wm. H. Dall in Publication 2360 Smithsonian Institution (copies herewith submitted to members of the Commission) which is herewith made a part of Opinion No. 96.

The Secretary has submitted the case again to Dr. Wm. H. Dall and to Dr. Paul Bartsch, specialists in conchology. Dr. Dall has not changed the opinion he expressed in 1915 and he reports to the Secretary as follows:

It was not a sale-catalogue in the ordinary sense of being made for the purpose of selling, and the additions of Röding were a labor of love.

Bolten's names have been adopted by all first class workers in conchology, and I know of only one man, a German, who objects to them.

Since they are practically in universal use, any action invalidating them would be a calamity.

Dr. Bartsch concurs with Dr. Dall.

The Secretary has examined three prints of this Catalogue, one of 1798, a second of 1819, and a third of 1906.

If this case rested upon the edition of 1819, the Secretary would feel that there is distinct room for a legitimate difference of opinion on the question at issue, although he would find it very difficult to explain why an auctioneer's catalogue should contain detailed bibliographic references, the compiling of which probably cost much more than the price the collection would bring at auction.

The edition of 1798, however, bears all the earmarks of a carefully prepared manuscript intended to be printed as a permanent record with only incidental reference to sale. The Secretary is constrained to concur with Doctors Dall and Bartsch that this (first edition, at least) represents a scientific document rather than a sales catalogue, and the fact that the family of the deceased author wished to sell the collection seems to have its parallel in some modern zoological papers in which authors offer to exchange specimens (namely, to dispose of their specimens for a consideration); the fact that the return-consideration asked is specimens (with a money value) in one case and money itself in another case, appears to represent conditions identical in general but differing only in detail.

The Commission has the statement of two specialists in Conchology that "Bolten's names" "are practically in universal use" and that "any action invalidating them would be a calamity." On basis of this expert testimony combined with the fact that no formal necessity (under the Rules) appears to be present to indicate the necessity of rejecting the (first edition, 1798, of this) publication, the Secretary recommends that the Commission accept the *Museum Boltenianum*, 1798, as nomenclatorially available under the International Rules.

Opinion written by Stiles.

The foregoing Opinion was submitted to the Commission and a vote was taken with the following result:

Opinion concurred in by twelve (12) Commissioners: Apstein, Bather, Dautzenberg, Horvath, Jordan, D. S., Jordan, K., Kolbe, Monticelli, Skinner, Stejneger, Stiles, Warren.

Opinion dissented from by three (3) Commissioners: Annandale, Handlirsch, Loennberg.

Not voting, three (3) Commissioners: Dabbene, Hartert, Hoyle.
Commissioner Annandale states:

I feel obliged to dissent from the opinion proposed in your circular letter No. 72. I think it necessary to give my reasons. In the first place I do not

agree with Dr. Dall that all first class workers on conchology have accepted the nomenclature of the Museum Boltenianum.

In the second place, the question is, as is acknowledged, an extremely difficult one and I do not believe in revising nomenclature that has been universally accepted for many years, in doubtful cases.

I should state, however, that my colleague, Dr. Baini Prashad, the only other zoologist in Asia but myself who has yet done considerable systematic work in malacology, is now prepared to accept the Boltenianum nomenclature, although he has not done so in his published papers up to the present.

Commissioner Handlirsch states:

Die Bolten'schen Namen sind nur in Amerika in "universal use"—in Europa keineswegs. Man sieht aus diesem Beispiele wieder, dass eine ausgiebige Liste von "nomina conservanda" ein Segen für unsere Wissenschaft wäre.

Commissioner Skinner states:

Dr. H. A. Pilsbry takes exception to the opinion on the ground of what "constitutes publication," a paucity of copies, not accessible to nearly contemporary writers, this making all the trouble.

The foregoing objections were submitted to the Commission and a new vote was taken with the following result:

Opinion concurred in by eleven (11) Commissioners: Bather, Chapman, Horvath, Jordan (D. S.), Jordan (K.), Monticelli, Neveu-Lemaire, Skinner, Stejneger, Stiles, and Warren.

Opinion dissented from by three (3) Commissioners: Apstein, Handlirsch, and Kolbe.

Not voting, four (4) Commissioners: Dabbene, Hartert, Hoyle, Loennberg.

NOTE BY SECRETARY.—During the proof-reading of Opinion 96, Dr. H. A. Pilsbry has submitted to the Secretary an elaboration of his views cited briefly by Commissioner Skinner. This document will be sent to the Commissioners.

OPINION 97

DID HÜBNER'S TENTAMEN, 1806, CREATE MONOTYPIC GENERA?

SUMMARY.—Hübner's Tentamen, 1806, was obviously prepared essentially as a manifolded manuscript, or as a proof sheet (cf. Opinion 87), for examination and opinion by a restricted group of experts, *i. e.*, in *Lepidoptera*, and not for general distribution as a record in Zoology. Accordingly, the conclusion that it was published in 1806 is subject to debate. Even if the premise be admitted that it was published in 1806, the point is debatable whether the contained binomials should be construed as generic plus specific names. Even if it be admitted that the binomials represent combinations of generic plus specific names, they are essentially *nomina nuda* (as of the date in question) since authors who do not possess esoteric information in regard to them are unable definitely to interpret them without reference to later literature. If published with more definite data at later dates, these names have their status in regard to availability as of their date of such republication.

STATEMENT OF CASE.—Dr. J. McDunnough, Entomological Branch, Department of Agriculture, Ottawa, Canada, has submitted to the Commission the question: Did Hübner's Tentamen, 1806, create monotypical and valid genera? As the validity of the units in question is a zoological, not a nomenclatorial problem, the Secretary modifies the question to read: Did Hübner's Tentamen, 1806, create monotypic genera? Dr. McDunnough presented the following data:

In the May number of the Entomologist's Record for 1919, the second installment of Baker and Durrant's comparison of Jacob Hübner's Tentamen and Verzeichniss, elucidating his system of *Lepidoptera*, is prefaced by a few remarks by Mr. Bethune Baker, who strongly supports the view that the Tentamen creates generic names perfectly valid for use by systematic workers.

As my name is mentioned as one of those opposing the adoption of the Tentamen terms as valid genera, perhaps a few brief words, explaining my views more explicitly than I have heretofore done, may not be amiss.

The question of the validity or non-validity of the so-called 'genera' of the Tentamen has already been the subject of much controversy and no one is more anxious than I am to arrive at a definite decision regarding this perplexing pamphlet. Until this is done it will be impossible to introduce stability into the generic nomenclature of *Lepidoptera* as, owing to the early date of issue (1806), the Tentamen names, if accepted, will take priority over numerous long established generic names.

Since the publication of the brief statement in the introduction to Barnes & McDunnough's Check List of North American Lepidoptera, I have given the matter considerable further study, and I am now perfectly willing to agree with Mr. Baker that we must consider the Tentamen to have at least been published and that it certainly will not be sufficient to discard the names therein proposed as inedited. This, however, does not settle the matter to

my mind and we are still faced with the question as to whether Hübner created what can be termed modern genera in the aforesaid work or not.

It is a well-known fact that Hübner did not employ the term 'genus' to signify the category immediately above a species. The Hübnerian 'coitus' as used in the Verzeichniss has been, however, generally accepted as typifying the modern 'genus' and as fulfilling the requirements of the International Code in respect to generic validity. Turning to the Tentamen, we at once see from the title that Hübner is not dealing with *coiti* but with *stirpes* and that, in fact, the Tentamen is but the merest skeleton of a system which was amplified ten years later in the Verzeichniss, where the *stirpes* of the Tentamen are employed *only in a plural sense* [in the text, but in the singular in the index.—C. W. S.] and correspond with our modern ideas of a subfamily or even a family. The unfortunate fact remains that in the Tentamen Hübner, besides his plural usage, actually has employed the *stirps* name in the singular in connection with a specific name. It must seem evident that the intention was merely to cite a species considered by the author to be typical of each *stirps* and the usage of the term in the singular number was probably merely to conform to the rules of correct Latin [the paper is entirely in Latin.—C. W. S.]; one of the strongest arguments in favor of this view is the fact that in the Verzeichniss each and every specific [107.—C. W. S.] name used in the Tentamen is placed by Hübner in a *coitus* not identical in name with the term employed in the Tentamen (as would naturally be the case if he had intended creating *coiti* in this pamphlet) but for which he either uses a generic name created by one of the early writers (Fabricius, Schrank, Ochsenheimer, etc.) or, failing this, actually proposes a new name.

The vital question then is, briefly stated—did Hübner by his employment of a *stirps* name in the singular along with a valid specific name actually—even if unintentionally—create a valid generic name? Common sense would seem to tell us, No, but on the other hand there is nothing in the International Code which would definitely forbid the usage of these terms as genera nor can I find any ruling under the Opinions rendered by the International Commission which would cover this case. Under the Code the sole absolute requirements for generic validity [availability.—C. W. S.] would appear to be unimominality and association with a valid [valid?—C. W. S.] specific name.

I would, therefore, offer the suggestion that the decision be left to an International Committee; I, for one, would willingly abide by their ruling and I am sure that most systematic workers in *Lepidoptera* would be glad to see the end of a vexatious question which, while affecting considerably the nomenclature of *Lepidoptera*, has, after all, no vital bearing on the larger problem of the interrelationships of the various species.

DISCUSSION BY SECRETARY.—The case now before the Commission has for many years been the subject of earnest controversy. It has been before the Commission for many months and has resulted in voluminous correspondence.

The Committee on Nomenclature of the Washington Entomological Society has studied the case and reports to the Secretary as follows:

In the minds of this Committee there is no doubt that Hübner's Tentamen is a publication and should therefore be treated as such.

To certain entomologists, Sir George H. Hampson, Bart., submitted this case in the following form, namely:

Are the genera of Hübner's *Tentamen* to be accepted or not? If accepted, what date is assigned to them?

and J. H. Durant¹ (1899) summarizes the replies as follows:

I. AS TO VALIDITY.

To be accepted: 1 Walsingham, 2 Kirby, 3 Fernald, 4 Grote (=4/11). It may be assumed from his writings and note that Scudder concurs (=5/11).

To be rejected: 1 Hampson, 2 Meyrick, 3 Smith, 4 Snellen, 5 Aurivillius, 6 Staudinger (=6/11).

Result 5-6/11; majority against accepting genera.

2. AS TO DATE.

No reply received from 1 Hampson, 2 Meyrick, 3 Snellen, 4 Aurivillius (11-4=7).

Published in 1806: 1 Walsingham, 2 Fernald, 3 Staudinger, 4 Grote, 5 Smith (=5/7). It may be assumed that Scudder concurs as he has adopted this date (=6/7).

Commissioner Karl Jordan submitted the case to "Members of the Entomological Committee on Nomenclature" and "various local committees and . . .," in addition, asked "a number of entomologists for their views." He reports to the Secretary as follows:

1. *Arguments for the acceptance of the Tentamen names.*—I. The *Tentamen* was distributed as a printed quarto sheet in 1806. Hübner in *Verzeichniss* 1816, says of it that he made it at once known "10 years ago." Ochsenheimer states in 1816 that "Hübner has issued . . . the plan of a classification of the *Lepidoptera* printed on a quarto sheet," and treats it as a publication of valid names, which he adopts; a reference in Vol. III of Ochsenheimer implies that he knew the *Tentamen* to have been in existence before 1810. Several copies are known, some discovered bound up in other books on *Lepidoptera*, which is evidence that the recipients of a copy did not consider it to be a mere advertisement, but scientific matter well worth preserving. The classification published in the *Tentamen* was adopted by Hübner on the plates of Vol. I of his *Samml. Exot. Schmett.* (1806-1834).

2. The stirpes (genera) are well defined by the fact that only one species is cited under each stirps. All these species (types of genera) were known. In every case the names of the *Tentamen* can be identified through Hübner's own illustrations of the species cited. "We can find out to a dead certainty what Hübner meant" (Grote), and there can be no doubt about the publication of each generic name.

¹ Nomenclature of *Lepidoptera* <Proceedings 4th International Congr. Zool. (1898), 1899, 285.

3. The citation of a known species as the type of a new genus is a much better definition and guide than, for instance, Hübner's descriptions in the Verzeichniss, the names of which are generally accepted as valid [available.—C. W. S.] in spite of the futility of these so-called descriptions. With regard to the Tentamen, we turn to Hübner's figure and can ascertain what species was intended, and for ourselves test whether the genus be valid or not.

4. No one will be disposed to doubt the necessity for full definition of all genera published after the acceptance of the British Association Rules, but it was impossible for authors who lived and died before these rules were made known to act upon them. The *nomina nuda* published before 1842 (Brit. Assoc.) stood upon an entirely different footing from those published after that date (cf. Zool. Congr. 1868).

5. If the Tentamen names are rejected, many other names (*i. e.*, many of Ochsenheimer's and Guenee's, which are in general use, but have no more claim to recognition than have Hübner's) must be discarded, and the confusion would be terrible.

In favor of the acceptance of the Tentamen are: C. T. Bethune Baker (Leamington Spa), J. H. Durant (London), J. de Joannis (Paris), R. Puen-geler (Aachen), N. D. Riley (London), H. Stichel (Berlin).

II. *Arguments against the acceptance of the Tentamen names.*—1. The Tentamen was probably sent only to some of the subscribers to Hübner's Samml. Europ. Schmett., which would account for the number of known copies being so very small. Hübner, in Verzeichniss in 1818, states that he conceived the idea of a classification of the *Lepidoptera*, but that, before he would adopt it himself, he had communicated the plan of it to experts for examination and criticism. He was his own publisher, and the quarto sheet giving the skeleton of a tentative classification appears to be in the nature of a publisher's prospectus, which is not a publication valid for nomenclatorial purposes. Hübner nevertheless adopted the plan for the plates of Vol. 1 of Samml. Exot. Schmett., interpolating here a third name between stirpes and species, *Nercis fulva Polymnia*. In the letter-press to this Vol. 1 and in all his other publications he rejected the Tentamen names, employing them in the plural form for higher divisions only, not for genera.

2. The stirpes in the Tentamen are without descriptions and references. Though under each stirps one species is quoted (*Rusticus Argus*—*Princeps Machaon*—), no author is given. The majority of these specific names occurred among *Lepidoptera* only once before 1808, and we assume that such specific names in the Tentamen refer to those known species and not to other species. However, 17 of the names had been applied before 1806 to two, three, or four species (*proserpina*, *matura*, *malva*, *fabi*, *caliciformis*, *carpi*, *parthenias*, *lunaria*, *auriflua*, *affinis*, *aprilina*, *flavicincta*, *fulvago*, *lyth-orylea*, *umbratica*, *barbalis*, *bombycalis*). In these cases again we may assume that Hübner meant the species he had figured before 1806. But which of the two *fabi* then known did he mean with *Consul Fabius*, not figured by him? What is his *Elophila Linnalis*? Is *Linnalis* a new name or is it (like *Macniata* for *Macniata*) a misprint for *Limbis* or for *Lemmalis*, both figured before? What is *Phyllonorycter Rajella*? Did he mean *Rajella* Linn., or the very different *Rahella* Hübner?

Rigorously construed, the absence of descriptions, references and authors leaves all the names open to conjecture.

3. The combination of two words *Princeps Machaon* can in no way be interpreted as a definition of the genus *Princeps*. The combination can mean that the new genus *Princeps* contains only one species, *machaon*, or all the species similar to *machaon*, or all the butterflies not placed in other genera. In 1806 the recipient of a copy of the Tentamen could not know whether Hübner wished him to put the one or the other construction on the naked names. Nobody in 1806, except Hübner himself, could know in which stirpes of the Tentamen to place the larger proportion of the species then already well known. There is not the slightest indication where to place, for instance, the numerous Erycinids then already figured. The Tentamen was a mere skeleton intended to be filled in later, but abandoned by its author.

The citation of a species is not a definition of a genus; a higher category is not defined by one lower category. [Cf., however, Opinion 1.—C. W. S.]

4. Linnaeus clearly stated the rules of nomenclature in the introduction to Syst. Nat. X, 1758 [Philos. botan., 1753.—C. W. S.]. He demanded that the various systematic concepts be defined by stating the differences.

5. If the Tentamen names are adopted no good will be served, some familiar names, such as *Abraas*, will be superseded, other lists of naked names will become valid publications, and numerous useless changes and infinite chaos will result.

Against the acceptance of the Tentamen names are: G. J. Arrow (London), Chr. Aurivillius (Stockholm), E. E. Austen (London), K. G. Blair (London), E. L. Bouvier (Paris), G. C. Champion (Woking), H. Eltringham (Oxford), A. Handlirsch (Wien), C. G. Gahan (London), K. Enderlein (Berlin), M. Hering (Berlin), K. Holdhaus (Wien), O. Meissner (Potsdam), F. Reyer (Saarbruecken), E. Meyrick (Marlborough), H. Rebel (Wien), Rothschild (Tring), L. B. Prout (London), S. Schenkling (Berlin), P. Schulze (Berlin), W. H. Tams (London), H. Zerny (Wien).

E. L. Bouvier, R. Verity, and J. Waterston would be in favor of retaining such names as are in general use, which could be done by placing them by common consent on the List of *Nomina Conservanda*.

K. M. C. Heller (Dresden) is not quite sure that the Tentamen can be regarded as a publication.

Messrs. Enderlein, Hering, and Hesse (Berlin) are against the reintroduction of names which have been out of use for a period of (say) 50 years.

The Secretary has found a division of opinion among American entomologists, but nearly or practically all of the North American workers in *Lepidoptera* seem to be distinctly of the opinion that the names in question are available under the Code; and the following summary by Foster H. Benjamin seems to be a fair presentation of their views:

We believe that the Tentamen was published about 1805 or 1806, and that copies have been available ever since; that its authorship is clear, that its author created a number of monotypic genera, thereby designating types; that these genotypes were published in tabular form under the name of their former genus or subgenus; that in consideration of the date of issue of the Tentamen it requires no knowledge of *Lepidoptera* to determine that *Papilio polyminia*, or *Noctua segetis* are species which have been well published under

all rules of the Code; that authorship following the specific names is not only not definitely required under the Code, but that any general zoologist in 1806 would have known immediately in his own mind exactly what taxonomic organism Hübner listed at least in the great bulk of the listings without even the need of trying to look anything up; we find nothing in the Code which states that what constitutes an easily interpreted indication in 1806 (or 1925) may later, 1925 (or 2044) become not valid by reason of the addition of unsuppressed homonyms or because of any other complications, especially after the indication had been rendered still more available by correct interpretation by a number of different authors in the intermediate period.

The Secretary presents the following evidence to the Commission.

TITLE OF DOCUMENT.—The following is the title of the document in question as copied from a photostatic reproduction of a copy bearing the following "Reprinted in facsimile by S. H. Scudder—Cambridge, U. S. A., 1873": *Tentamen determinationis digestionis atque denominationis singularum stirpium Lepidopterorum, peritis ad inspiciendum et dijudicandum communicatum*, a Jacobo Hübner.

This title might be translated into English, in various phraseology, as follows: "a tentative (or attempt) determination (or to determine, limit), division (or to divide, orderly distribution, arrangement) and naming (denominating, change of name=metonymy) of the separate (single, one by one) stems (sticks, families, races, cf. stirps, genus, family) of Lepidoptera *communicated to experts* (the skilled, the experienced, the practically acquainted) *for their inspection (look into, consideration, contemplation, examination) and judgment*. [Italics by Secretary.]

Ochsenheimer (1816, viii) states:

Herr Hübner hat unter dem Titel: Tentamen . . . [etc.] . . . den Entwurf eines Systems des Schmetterlinge auf einem Quartblatte abgedruckt herausgegeben, worin die von ihm angegebenen Familien mit Gattungsnamen von verschiedenen Werthe belegt sind.

Hübner (1816, Verzeichniss, p. 3) refers to the Tentamen as follows:

Die Grundlage dieses Entwurfes habe ich sogleich, unter dem Titel: Tentamen determinationis, digestionis atque denominationis singularum stirpium Lepidopterorum bekannt gemacht, *damit sie von Verständigen, bevor ich sie annähme, geprüft und beurtheilt werden möchte*. [Italics by Secretary.]

Hübner (1818, Zuträge, pp. 4-5) printed what is practically a second, modified and enlarged, version of his Tentamen, preceding it with the following statement:

Denn mein 1806 bekannt gemachter *Versuch einer Bestimmung, Anordnung und Benennung aller Stämme der Schmettlinge* wurde weder gleich verworfen, noch gleich ergriffen. Erst nach und nach wird er beachtet, und durch

Zusätze, Berichtigungen und Verbesserungen zu einem brauchbaren System erhoben werden können.

Weil ich mich nun bey diesen Zuträgen sowohl als bey meiner Sammlung exotischer Schmetterlinge einstweilen nach meinem Entwurfe zu richten habe, bis ein trefflicheres System entstanden seyn wird, so halte ich es für unumgänglich, denselben nach seinem hauptsächlichsten Inhalt hier einigermaßen verbessert aufzustellen.

From the foregoing the conclusion would seem justified that in 1806 Hübner had no intention whatever of placing on record a series of generic and specific names in the sense of publication as ordinarily understood by the zoological profession and if the names in question are accepted as available under the Code, this must be on the principle of holding a man responsible for something which he obviously did not intend to do and in face of the precaution he took to state that this document was for *examination by experts*, namely specialists in *Lepidoptera* [rather than as a permanent record]. If this decision is made against Hübner despite the precautionary wording of the title a very broad question is opened up as to the status of numerous documents printed and privately distributed with such headings as "Printed as Manuscript" "Not for Citation," etc. Cf. also Opinion 89.

Granting that the word "publication" is poorly defined and the fact that the Tentamen was manifolded by printing, the point is still outstanding that Hübner did not intend this document for general distribution as a permanent document but only in the light of correspondence for *restricted distribution to specialists in Lepidoptera*.

The Secretary concludes that the question whether this document was actually "published" or not is subject to debate, but that Hübner himself clearly warned that it was not to be considered a permanent document for general distribution.

HÜBNER'S USE OF TERMS "STIRPS," "COITUS," AND "GENERA".—Hübner (1806) divides the *Lepidoptera* into *Phalanx I Papiliones* to *Phalanx IX Alucitae*. The following subdivisions of *Phalanx I* show the full details of his use of technical names in the Tentamen.

PHALANX I. PAPILIONES

Tribus I: nymphales

- I. Nereides—Nereis Polymnia.
- II. Limnades—Limnas Chrysippus.
- III. Lemoniades—Lemonias Maturua.
- IV. Dryades—Dryas Paphia.
- V. Hamadryades—Hamadryas Jo.
- VI. Najades—Najas Populi.
- VII. Potamides—Potamis Iris.
- VIII. Oreades—Oreas Proserpina.

The question arises as to how the entry "I. *Nereides*" etc., for instance, is to be interpreted. It will be noticed the *Nereides* is in the plural and that "*Nereis Polymnia*" is in the form of a binomial in the singular. Hübner, 1816, p. 8, and 1818, 4, shows that *Nereides* was intended as Stirps, printed as plural in the text and as singular *Nereis* in the Index. Further Hübner (1816, p. 8) uses the German word "Verein," Latin "Coitus," in the sense of "genus" of other authors, while in the indices both in 1816 and 1818 he uses the German word "Gattungen" (Latin "genera") in the sense of "species" of other zoologists. The coitus name he prints (1816, p. 8), example *Hymenites*, in the plural, in the text, when used alone, but in the singular (example, *Hymenitis diaphana* p. 8) when used in a binomial form, and in the index, he prints it in the singular (example *Hymenitis*). Thus, from his other publications it seems clear: (a) that the Verein="Coitus" of Hübner is intended to be identical with the genus as used by other authors, and (b) that the next lower unit "Gattung"="Genus" of Hübner is intended to represent the "species" of other authors. Hübner (1816, p. 8) quotes *Nereides* as Stirps I in the plural and it seems reasonable to conclude that he intended the *Nereides* as used in his Tentamen, 1806, to represent Stirps I.

It is to be noted that the word "Stirps" among early authors is not used uniformly. Thus Brisson (1762, 131-132) divides groups in the following serial units: Ordo, Sectio, Genus, Stirps [practically a subgenus], [species]. Gronovius (1763, 5) quotes the Stirps practically as a genus. Hübner (1816) clearly used the Stirps (=Stamm) as supergeneric.

Possibly Hübner's word "stirpium" in the Tentamen title (1806) is clear to specialists, but only by consulting his other works (as 1816 and 1818) does it become clear to the general zoologist that Hübner's Stirps is a supergeneric group, cited sometimes in the plural, sometimes in the singular. Accordingly, the position of the "stirpium" of 1806 is not clear as of the date 1806.

In seeking for an interpretation of the binomial *Nereis Polymnia* on the other hand it is to be noticed that there is a Linnaean species *polymnia* quoted by Hübner (1816, p. 11) as *Mechanitis polymnia*, and that no combination "*Nereis Polymnia*" appears to be cited in 1816. In hunting for the second binomial combination *Limnas Chrysippus* 1806, it is found that there is a species (1816, p. 15) cited as *Euploea Chrysippe*, but a combination *Limnas Chrysippus* does not seem to be present in Hübner, 1816.

Thus a legitimate question arises as to whether Hübner intended *Nereis Polymnia* etc. to be interpreted as binomial combinations in nomenclature. Apparently 107 binomial combinations of this type are involved.

Were it not for Hübner's later publication 1816 the presumption would be that *Linnaeus Polymnia* of 1806 represents a binomial combination of our generic and specific names, *i. e.*, his coitus and generic names.¹

Further, it is seen that Hübner sometimes quotes his "coitus" (our genus) in the plural, other times in the singular, and that his "genus" ("Gattung") is our species.

The Secretary concludes that the plural names cited in 1806 in Hübner's Tentamen represent a supergeneric taxonomic unit which in 1816 Hübner calls a Stamm (German) or Stirps (Latin) but that the question is open to debate whether the binomial combinations (example *Linnaeus Polymnia*) in 1806 are intended to designate monotypic genera. However clear the title of the Tentamen may be to specialists in *Lepidoptera* it was not clear to the Secretary until he consulted Hübner, 1816, p. 8. The word *stirpium* in the title of the Tentamen becomes unambiguous in 1816, namely, it refers to the Stamm (German)=Stirps (Latin), namely, a supergeneric unit and it becomes obvious that the real object back of the Tentamen was the tentative division of the *Lepidoptera* into supergeneric groups (Stirps=Stamm), and not the consideration of 107 generic names with their type species. In other words Hübner asked his special colleagues for their opinion on the names printed in the plural, not on the question of the validity of new genera.

¹ Mr. Benjamin, in correspondence with the Secretary, has pointed out that five of the names used by Hübner are of prior date, namely—

1. *Hepialus* [emended to *Hepiolus* by Illiger] *humili* Fabr., 1775, 589.
2. *Pterophorus pentadactylus* (Linn., 1758a [*Phalaena*]) Fabr., 1775, 672, cf. *Pterophora pentadactyla* in Hübner.
3. *Sesia culiciformis* (Linn., 1758a [*Sphinx*]) Fabr., 1775, 549.
4. *Thyris* Laspeyres in Illiger, 1803, II, 39 [Cf. *Thyris* Ochsenh., 1808, cited by Agassiz.]
5. *Zygacna filipendulac* (Linn., 1758a [*Sphinx*]) Fabr., 1775, 550.

and Mr. Benjamin maintains that Hübner attempts to fix the type for *Zygacna*.

The Secretary has checked these references (no. 4 in Agassiz; nos. 1, 2, 3, 5, in Sherborn).

Mr. Benjamin has undoubtedly raised an interesting point; but the Secretary is not persuaded that the argument is materially altered; nor is it clear to the Secretary that the type of *Zygacna* was fixed by Hübner.—Note added after third vote was taken.

As these supergeneric names were again printed in Hübner, 1816, they take Hübnerian status of availability in 1816 in case Hübner, 1806, is not accepted as publication.

Are Hübner's binomials of 1806 nomina nuda?—Granting for the sake of argument that Hübner's Tentamen is to be accepted as a published document in nomenclature and also that the binomials, example, *Nercis Polymnia*, are to be accepted as publication of monotypic genera, the question arises whether these binomials are available in nomenclature as of the date 1806.

The point is to be emphasized that the question at issue is primarily one of zoological nomenclature, not one of the nomenclature of *Lepidoptera*. For instance, potentially each one of the 107 [or at least 102] names in question, if admitted as of generic value in the sense of the Code, might theoretically jeopardize the identical name, of later date, in some group other than *Lepidoptera*. Whether any such case exists, or not, is immaterial in the argument. The fundamental principle is that names in *Lepidoptera* must be available, understandable, and traceable, from the standpoint of workers in other groups if they are to enjoy status of availability in *Lepidoptera*. Compare, for instance, Hübner's name *Amocba* vs. *Amocba* Bory; also *Hamadryas* Hübner, 1806, vs. *Hamadryas* 1832, 1840, 1850, and 1864.

The point is rather striking that in two votes taken by the Commission, every vote but one cast by the zoologists who are not specialists in *Lepidoptera* was against the Tentamen. Here is a practical demonstration that Hübner's Tentamen presents difficulties which call for analysis.

Thus, the first name in question in Hübner, 1806, is *Nercis*. There is also a *Nercis* Linn., 1758a, 654, so that the Hübnerian name is a dead homonym, if interpreted as generic. But assume that *Nercis* 1758 bore the date of 1810; the zoologist who deals with the *Polychaeta* would have to determine whether *Nercis* 1806 were a *nomen nudum* or not; his one clue is "*polymnia*," to which Hübner gives no reference as to author, date, or publication. It is, however, noticed that Hübner cites *Nercis* as I *Papilioncs*, I *nymphales*; and possibly it might occur to the worker in *Polychaeta* to examine Sherborn's 1902 index, where he would discover a *Papilio polymnia* Linn., 1758a, 466; following this clue, it is found that Linné classified *polymnia* not as *Nymphales* (p. 472) as did Hübner, but as *Heliconii* (p. 465-467); conceivably, the worker might have time to trace up later publications by Hübner, to solve his terms genus (=species), coitus (=genus), stirpes (=supergeneric name), etc., and to trace the literature on *polymnia*, but this is, at least, open to doubt.

To admit the Hübnerian (1806) combination "*Nereis Polymnia*" as available, as of 1806, as a generic plus specific name, means to admit 107 [or at least 102] combinations of essentially like status, and potentially to serve notice on zoologists in groups other than *Lepidoptera* that they must familiarize themselves with the literature of *Lepidoptera* in case any one of these debatably generic names competes for priority with names in their own groups. Is this reasonable?

The Secretary is assured by specialists in *Lepidoptera* that there is no difficulty in tracing these Hübnerian names. Commissioner Jordan's report, however, cites 17 specific names which, however clear to specialists in *Lepidoptera*, would present some difficulty to specialists in other groups.

On basis of the assurances given by specialists in *Lepidoptera*, the Secretary is not prepared to dispute their claim, but he reverts to the point that the document was intended only for specialists in *Lepidoptera* (not for the zoological profession), and it can be only through special or esoteric information that the Hübnerian (1806) names can be interpreted as monotypic genera each based upon a definitely recognizably published species; in other words, to zoologists of other groups these names, as of 1806, are *nomina nuda*.

The data in this case were submitted to the Commission in Secretary's C. L. No. 63, with request for suggestions and an informal vote. The vote stood: for acceptance, 2 Commissioners; for rejection, 9 Commissioners.

Additional data were submitted in Secretary's C. L. No. 97, with request for formal vote. The formal vote stands: 9 for rejection, 1 for acceptance.

The final draft of the Opinion is submitted herewith for approval to the Commissioners in Secretary's C. L. No. 100, with recommendation that the Commission adopt as Opinion the following:

SUMMARY.—Hübner's Tentamen, 1806, was obviously prepared, essentially as a manifolded manuscript, or as a proof sheet (Cf. Opinion 87), for examination and opinion by a restricted group of experts, *i. e.*, in *Lepidoptera*, and not for general distribution as a record in zoology. Accordingly, the conclusion that it was published in 1806 is subject to debate. Even if the premise be admitted that it was published in 1806, the point is debatable whether the contained binomials should be construed as generic plus specific names. Even if it be admitted that the binomials represent combinations of generic plus specific names they are essentially *nomina nuda* (as of the date in question) since authors who do not possess esoteric information in regard to them are unable definitely to interpret them without refer-

ence to later literature. If published with more definite data at later dates, these names have their status in regard to availability as of their date of such republication.

Opinion written by Stiles.

Opinion concurred in by eleven (11) Commissioners: vApstein, Bather, Handlirsch, Horvath, Jordan (D. S.), Jordan (K), Kolbe, Loennberg, Monticelli, Stiles, Warren.

Opinion dissented from by two (2) Commissioners: Neveu-Lemaire, Skinner.

Not voting, four (4) Commissioners: Chapman, Dabbene, Hartert, Stejneger.

NOTE BY SECRETARY.—During the reading of the proof of Opinion 97, application to validate Hübner's Tentamen as of January 1, 1806, under Suspension of the Rules, has reached the Secretary's office. See notice in the scientific journals.

SMITHSONIAN MISCELLANEOUS COLLECTIONS

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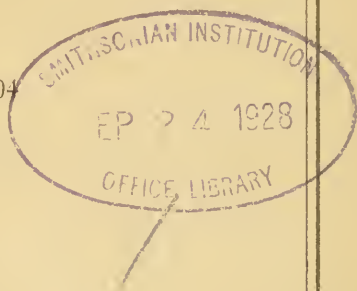
OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
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OPINIONS 98 TO 104



(PUBLICATION 2973)

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OPINION 98

BRAUER AND BERGENSTAMM

SUMMARY.—Rigidly construed, Brauer and Bergenstamm (1889 to 1894) did not fix the types for the older generic names, except in the cases where they distinctly state that the species mentioned is the type of the genus.

STATEMENT OF CASE.—Dr. Charles H. T. Townsend submitted the following case for opinion:

Friedrich Brauer and Julius Edlen von Bergenstamm published in the *Denkschriften der kaiserlichen Akademie der Wissenschaften*, from 1889 to 1894, an elaborate work entitled "Vorarbeiten zu einer Monographie der Muscaria schizometopa (exclusive Anthomyidae)," in four parts, comprising a total of 494 royal quarto pages and 11 royal quarto plates containing some 310 faithful drawings representing fully 300 distinct genera, the whole illustrating the authors' conceptions of the genera treated. This is a monumental work wholly unapproached in character by any work ever published on the Muscoidea. It treats the fauna of the world, giving the results of an exhaustive intensive study of external adult characters. The authors went as far as it is possible to go on external adult characters alone. Synopses of groups and genera embodying full diagnoses are given in both German and Latin. In each case the generic diagnosis is accompanied by one or more specific names, usually only one, and in that case immediately following the generic name, indicating the species which the authors employed to typify and illustrate their concept of a genus. In some cases the word type follows the specific name, but in most cases it is omitted. The word type, when it occurs, may in some cases be held as referring either to the type specimen of the species cited or the species itself in the sense of a genotype designation. In some cases the specific name immediately following a genus represents a species not originally included, but in a few of these cases an originally included species is also cited in or after the diagnosis, either following or preceding the generic name. It seems plain that in every case the intention of the authors, in citing the specific name or names, was to designate either the type species alone, or several typical species including the type species thereby fixing their conception of the genus.

The same authors published in the *Verhandlungen der k. k. zoologisch-botanischen Gesellschaft in Wien*, in 1893, a paper with exactly the same title as the

above, comprising 79 octavo pages, referring in a footnote to the three parts of the above-cited quarto work so far published at that time. In this work the authors gave synopses of the European genera and groups, in German, similar in plan to those given in the quarto work but in each case they preceded with the word "Type" the specific name. This paper is practically a repetition of the European faunal element in the quarto work.

It is plainly evident that the above quarto work was intended by its authors as a practically complete elucidation of the muscoid genera of the world known in collections up to that time, and it does in reality constitute such an elucidation. It is evident also that all possible consistent adherence to the generic concepts of this work will greatly advance the interests of muscoid taxonomy by facilitating the fixation of the numerous genera. If such adherence is not possible to obtain, certain genotype designations published subsequently to the above quarto work will hold, resulting in an entirely different interpretation of many of the genera treated.

In view of these facts, does the Commission rule that in all cases in said quarto work where a single originally included species immediately follows the generic name, the species in question shall be taken as the genotype; and that in all cases where the species immediately following the generic name is not an originally included species, the genotype shall be the first originally included species, if any, cited in connection with the generic diagnosis; provided in all cases that no conflicting valid genotype fixation had previously been effected?

DISCUSSION.—The foregoing case was submitted to Commissioner Karl Jordan for special study. At the meeting of the Commission in Budapest, August 30, 1927, he presented a verbal report discussing in detail the various documents involved.

He also presented the following written report:

In this work, which is preliminary to a more extensive work, the authors give diagnoses of all genera of these flies known to them. They quote behind the name of the genus usually *one* species, rarely *two*, and still more rarely *no* species. Nothing is said as to whether these species are meant to be examples or genotypes.

The genera should be grouped in three categories for the purpose of arriving at an opinion about the question "genotype" versus "example."

(1) New genera.—If only one species is mentioned, this must be accepted as genotype; if two are mentioned, one of them is the genotype.

(2) Old genera where a species is distinctly stated to be "Typus" of the genus.—In many cases B. and B. say "Typus," but it is clear that in these cases the addition of the word Typus means that B. and B. have examined the type [specimen] of the *species*.

(3) Old genera where one or two species are quoted without one of them being distinctly designated type of the genus.—In these cases the quoted species are merely "examples." In the later work, 1893, where for each genus a genotype is given, the genotypes are not always the same species as those quoted in the preliminary work under consideration; evidently B. and B. were not yet quite clear about the concept genotype when they published their preliminary studies.

In summary he found that, rigidly construed, Brauer and Bergensstamm did not fix the types for the older generic names, except in the cases where they distinctly state that the species mentioned is the type of the genus.

The findings were unanimously approved by the 8 Commissioners and Alternates present, namely: Apstein, Bather, Hartert, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles.

Later, the case with Commissioner Jordan's conclusion was submitted in Circular Letter No. 127 to all absent Commissioners. The final vote stands as follows:

Opinion concurred in by fifteen (15) Commissioners: Apstein, Bather, Chapman, Dabbene, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Neveu-Lemaire, Stejneger, Stiles, Stone, Warren, and two (2) Alternates, Muesebeck and Rothschild: Total 17.

Opinion dissented from by no Commissioner.

Not voting two (2) Commissioners: Handlirsch, Ishikawa.

OPINION 99

Endamoeba LEIDY, 1879, vs. *Entamoeba* CASAGRANDE and
BARBAGALLO, 1895

SUMMARY.—*Entamoeba* 1895, with *blattae* as type by subsequent (1912) designation, is absolute synonym of *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, and invalidates *Entamoeba* 1895, type by subsequent (1913) designation *hominis* = *coli*.

STATEMENT OF CASE.—Dr. W. H. Taliaferro presents the following case for Opinion:

Should the two generic names *Endamoeba* Leidy, 1879, and *Entamoeba* Casagrandi & Barbagallo, 1895, both be retained or should they be considered homonyms? It is impossible to decide this question from the existing International Rules. The spirit of Article 35, a-e, would point to the conclusion that they were homonyms, but Article 36 (recommendations) would allow the interpretation that both should be retained. In the past, authors have disagreed in regard to this question. Dobell (1919, "The Amoebae Living in Man"), for example, advocates the retention of both names whereas others consider them homonyms.

DISCUSSION.—This is a case upon which legitimate difference of opinion may arise. It has both its academic and its practical aspects.

The first point at issue is whether *Endamoeba* and *Entamoeba* are homonyms, or whether they come under the first recommendation of Article 36 which reads as follows:

It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced, such names are not to be rejected on this account. Examples: *Picus*, *Pica*; *Polyodus*, *Polyodon*, *Polyodonta*, *Polyodontas*, *Polyodontus*.

Neither Leidy, 1879, nor Casagrandi & Barbagallo, 1895 and 1897, gave the derivation of their generic name. Accordingly, the conceivable possibilities as to etymology seem to lie in recommendations *e* and *k* of Article 8 which read as follows:

The following words may be taken as generic names:

e. Greek or Latin derivatives expressing diminution, comparison, resemblance, or possession. Examples: *Dolium*, *Doliolum*; *Strongylus*, *Eustrongylus*; *Limax*, *Limacella*, *Limacia*, *Limacina*, *Limacites*, *Limacula*; *Lingula*, *Lingulella*, *Lingulepis*, *Lingulina*, *Lingulops*, *Lingulopsis*; *Neomenia*, *Proneomenia*; *Butco*, *Archibuteo*; *Gordius*, *Paragordius*, *Polygordius*.

k. Words formed by an arbitrary combination of letters. Examples: *Neda*, *Clauculus*, *Salifa*, *Torix*.

In view of the history of the genus *Amoeba* it would be difficult to assume that recommendation *k* obtains in this case.

In attempting to derive the two names from the Greek, it seems not absolutely inconceivable that the authors might have united the Greek words *ἐν* and *ἀμειβή*, Leidy using a *d* and Casagrandi & Barbagallo using a *t* for sake of euphony. If this possibility were actually the fact, the case would be somewhat similar to *Microdon* and *Mikrodon*, but more similar to *Tacniarhynchus* Weinl., 1858a, and *Tacniorhynchus* Arribalzaga, 1891, and etymologically [not necessarily taxonomically] the words would be not only synonyms but, if used for two different things, *virtually* homonyms.

Another, certainly more probable and more scholastic line of argument would be that while both names are based on *ἀμειβή*, Leidy derived his Greek prefix from *ἐνδον* and Casagrandi & Barbagallo derived their prefix from *ἐντός*.

Professor J. M. Campbell, of the Catholic University of America, has kindly furnished the Secretary with the following memorandum in regard to these two words:

ἐνδον, seen in our ordinary lexica, is derived from *ἐν* + Indo-European *-dom*.

Its original signification is "in the house" (*-dom*, cf. Latin *domus*).

ἐντός, of our lexica, is derived from *ἐν* + Indo-European *-tos* (meaning "from"). Its original signification is "in from," i. e., "from within."

The Indo-European *-tos* ("from") is seen in the Sanscrit *mukha-tāh* ("from the mouth") and in the Latin *caelitus* ("from heaven").

Both *ἐνδον* and *ἐντός*, according to Boissacq's "Dictionnaire étymologique de la Langue grèque" (Paris, 1910), are now synonymous, signifying "à l'intérieur."

Their early confusion of meaning is indicated by the career of *ἐνδον* in the dialects. In Cretan, Megarian, and Syracusan, *ἐνδον* became written *ἐνδός* on analogy with *ἐντός*. Such an analogical form probably arose from the approximate similarity in spelling of *ἐνδον* and *ἐντός* and, what is of more interest to us, from their similarity in meaning.

Accordingly, *endon* and *entos* are now synonyms and from this point of view *Endamoeba* and *Entamoeba* are words of identical meaning but of slightly different etymology in their historic development, in that both of them have in common the Greek words *ἐν* and *ἀμειβή* but differ in the Indo-European *dom* and *tos*.

Words of similar derivations as respects the *end* and *ent* are well known in terminology in zoology and are often interchangeable. For instance, *endoplasm* is interchangeable with *entoplasm*, and *endoderm* with *entoderm*. Not only would the concurrent use of these terms in different senses be confusing but zoologists have come to use them as absolute synonyms.

Turning now to the more practical and less academic side of the question we are faced by the following taxonomic situation.

Endamoeba Leidy, 1879a, p. 300, has for its monotype *Amoeba blattae*. The generic name was emended by Chatton, 1910, Ann. Zool. exp. gén., 282,¹ and 1912, Bull. Soc. zool. France, p. 110, to read *Entamoeba*, and by Chatton and Lalung, 1912, BSPe, p. 142, in the same sense. Accordingly, there is a generic name *Endamoeba* and one *Entamoeba* with the same species (*E. blattae*) as type.

*Entamoeba*² Casagrandi & Barbagallo, 1895c, p. 18, contained *Amoeba coli* and *A. blattae* without designation of type. Apparently the first type designation in words was by Brumpt (1913, p. 21) as *Entamoeba hominis* which is *Amoeba coli* renamed. It will be noted that the type designation is three years later than Chatton's emendation of *Endamoeba* to *Entamoeba*. It is also clear that Chatton (1912) quotes the generic name *Entamoeba* Casagrandi & Barbagallo, 1897, and invites attention to the fact that as early as 1910 he (Chatton,³ AZeg, 282) had shown that protozoologists had erroneously attributed the parentage of the genus *Entamoeba* to Casagrandi & Barbagallo, 1897. Accordingly, for Chatton *Endamoeba* 1879 and *Entamoeba* 1897 were simple orthographic variants and it is not at all impossible (renaming and cf. Opinion 6) to construe his papers (1910, 282, and 1912, 110) as a designation of *blattae* as the type of *Entamoeba* Casagrandi & Barbagallo, 1897. This point of view receives support in the fact that Chatton eliminated *E. coli* from *Entamoeba* and made it type of *Löschia*. If this point of view be accepted, *Endamoeba* 1879 and *Entamoeba* 1895 are to be interpreted as having the same genotype, on the premise that Chatton in 1912 determined the type of *Entamoeba* Casagrandi & Barbagallo as *blattae* while Brumpt did not make his determination (*hominis*=*coli*) until 1913.

We are further faced by the complication that some authors consider the species *blattae* and *coli* as congeneric, others as belonging to two different genera in the same family, and still others as belonging to two different subgenera in the same genus.

¹ It is obvious that Casagrandi & Barbagallo were discussing *E. coli* rather than *E. blattae*, and that they cited only incidentally the latter species. To take *E. blattae* as type of their *Entamoeba* is theoretically possible under the Rules, but is contraindicated by Art. 30, n. p. q. t, also by the obvious fact that Casagrandi & Barbagallo had *E. coli* especially in mind. The difficulty is solved equally well by considering *Entamoeba* a variant of *Endamoeba*, as Chatton (1910) did, before Chatton & Lalung, 1912, eliminated *coli* to *Löschia*.

² "*Entamoeba* Leidy, 1879" . . . "C'est à tort que Doflein (1909) attribue la paternité du genre *Entamoeba* à Casagrandi & Barbagallo (1897)."

The case has already produced considerable confusion in literature and it seems obvious that unless the name *Entamoeba* is definitely suppressed both the nomenclatorial and the taxonomic status of the species which come into consideration will become even more confused.

Accordingly,

(a) since the original authors did not give the derivation of the two names in question,

(b) since Chatton (1910, Ann. Zool. exp. gén., 282, and 1912, Bull. Soc. zool. France, p. 115) interpreted the two names as orthographic variants, hence identical in origin, and therefore homonyms,

(c) since Chatton's action appears to be the earliest interpretation available to the Secretary and therefore has priority,

(d) since (under Opinion 6) Chatton's paper (1912, Bull. Soc. zool. France, p. 113) is to be interpreted as designating *blattae* as type of "*Entamoeba*" 1897 (=1895), [emendation of *Endamoeba*, but obviously construed as identical with *Entamoeba*],

(e) since the concurrent use of the two generic names as closely allied separate units has already given rise to a confusion which promises to increase rather than to decrease,

(f) since zoologists are accustomed to use words of similar derivation as respects the *end* and *ent* interchangeably, and

(g) since, conceivably, *Entamoeba* and *Endamoeba* might have been derived from *ἐν* and *ἀμειβή* with *d* and *t* for sake of euphony, or still more probably, and more scholastically, derived from *ἐνδον* or *ἐντός* and *ἀμειβή*, the one or the other adverb being used as seemed the better at the moment, whether for euphony's sake or for other reason (that they have the same meaning, etc.) and since they are therefore of the same meaning and practically, though not academically, of the same ultimate derivation *ἐν* (+ *tos* or + *dom*) and *ἀμειβή*, the Secretary recommends that the name *Entamoeba* 1895, either with type *hominis=coli* as definitely designated by Brumpt, 1913, p. 21, or with *blattae* as accepted by Chatton and Lalung (1912, 111) and as implied by Chatton (1910, 282), be definitely invalidated by *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, irrespective of the point whether the type of *Entamoeba* be considered *blattae* or *coli*.

The foregoing Opinion was submitted to vote by mail and carried as follows:

Opinion concurred in by twelve (12) Commissioners: Apstein, Horvath, Jordan (D. S.), Kolbe, Loennberg, Monticelli, Neveu-Lemaire, Skinner, Stejneger, Stiles, Stone, Warren.

Opinion dissented from by three (3) Commissioners: Bather, Handlirsch, Jordan (K.).

Not voting, two (2) Commissioners: Chapman, Hartert.

The points raised in the dissenting votes were sent to all Commissioners and a new ballot was taken with the following result:

Concur with the original Opinion, eight (8) Commissioners: Handlirsch, Jordan (D. S.), Jordan (K.), Neveu-Lemaire, Monticelli, Stiles, Stone, and Warren.

Dissent from original Opinion, three (3) Commissioners: Apstein, Bather, and Horvath.

Not voting, six (6) Commissioners: Chapman, Dabbene, Hartert, Kolbe, Loennberg, and Stejneger.

All papers were tabled until the Budapest meeting of the Commission. Commissioner K. Jordan was appointed a committee of one to restudy the case for the Commission. He reported as follows:

Entamoeba Leidy, 1879 with *blattae* as only species.

Entamoeba Casagrandi & Barbagallo, 1895, with two species, *blattae* and *coli*, none being designated as genotype.

When Casagrandi and Barbagallo proposed *Entamoeba* as a new genus they were unaware of the existence of the name *Entamoeba* Leidy, 1879.

Which spelling of the name should be used? The question can be decided on nomenclatorial grounds and on philological grounds:

A. NOMENCLATORIAL CONSIDERATIONS

In 1912 Chatton separated from *Entamoeba* the species *coli* as genotype of his new genus *Löschia*, leaving *blattae* as only original species in *Entamoeba*. As nobody had dealt, nomenclatorially, with *Entamoeba* prior to 1912, Chatton's action made *blattae* the type of *Entamoeba*. In 1912 the two concepts stood like this:

Entamoeba Leidy, 1879, type *blattae*.

Entamoeba Casagrandi & Barbagallo, 1895, type *blattae*. That is to say, the second name falls as a synonym of *Entamoeba*.

B. PHILOLOGICAL CONSIDERATIONS

In zoology the prefixes *Ento-* and *Endo-* are frequently interchanged. In zoological terminology they are located as being identical. They come under the category of names of which the spelling in Latin varied to a slight extent and which the Rules of Nomenclature do not accept as different, such as *auctumnalis* and *autumnalis* (p. 87 of Rules). *Entamoeba* is philologically the same as *Endamoeba*.

On motion and second, the foregoing report was adopted by unanimous vote of those present, namely: Apstein, Bather, Hartert, Heddicke, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles, and authorized to be published.

OPINION 100

SUSPENSION OF RULES, *Spirifer* AND *Syringothyris*

SUMMARY.—Under Suspension of the Rules the genotype of *Spirifer* Sowerby, 1816, is fixed as *Anomia striata* Martin, and the genotype of *Syringothyris* Winchell, 1863, is fixed as *Syringothyris typa* Winchell (= *Spirifer carteri* Hall).

STATEMENT OF CASE.—Miss Helen M. Muir Wood has submitted the following case for opinion under Suspension of the Rules:

The genus *Spirifer* was first named and described by James Sowerby, Feb. 1, 1816, in Mineral Conchology, Vol. 11, p. 41. The only species mentioned is "*Spirifer cuspidatus*" [*Anomia cuspidata* of W. Martin, 1798, Trans. Linn. Soc., Vol. 4, p. 45]. In his discussion of *Spirifer* Sowerby writes: "this genus will comprehend nearly all the shells retained as *Terebratula* by Lamarck which have a triangular foramen and not a perforation at the apex of the beak as the character of that genus requires. The several individuals in which I have discovered spiral appendages bear a considerable affinity to each other. . . ." He adds in a footnote, "I gave a paper sometime since to the Linnean Society on the construction of this tubular cartilage which almost fills the shells . . ."

" . . . I conceive that all those in Martin's division of *Anomitae* d. d. (Martin's outlines and p. 243) which he describes as having both valves convex and a large trigonal foramen belong to this genus and also perhaps those of his next section with a small foramen . . . " [This refers to Petrificata Derbiensia of Martin, 1809, p. 9, and includes the following species of Martin: first, *Anomites trigonalis*, *triangularis*, *striatus*, *subconicus*, *cuspidatus*; secondly, *acutus*, *rotundus*, *glaber*, *resupinatus*, and *lineatus*.]

In December 1814 and February 1815 James Sowerby had read a paper before the Linnean Society entitled "Some Account of the Spiral tubes or ligaments in the genus *Terebratula* of Lamarck as observed in several species of fossil shells." This paper which did not appear in print until 1818 (Trans. Linn. Soc., Vol. 12, p. 514) contained an account and figures of the spires in *Anomia*, *Terebratula striata* of Martin (Petrificata Derbiensia, 1809, pl. 23, figs. 1 and 2) and is referred to in the footnote in the Mineral Conchology. Sowerby states, p. 515: "I suspect *Anomia cuspidata* . . . with the beak of the perforated valve lengthened and reverse may have a similar construction within as well as *Anomia subconica* of Martin tab. 47." A footnote on the same page, added at the time of publication, referring to *Anomia cuspidata*, states "Figured since the reading of this paper as *Spirifer cuspidata* in Mineral Conchology tab. 120."

From the preceding it follows (1) that *Spirifer* was neither named nor diagnosed before February 1816 (Min. Conch.), (2) that the diagnostic character by which the genus was distinguished from *Terebratula* was the shape of the foramen, (3) that the possession of spires by species so distinguished was inferred in the case of *Spirifer cuspidatus*, (4) that the only species actually named as *Spirifer* was *Anomia cuspidata* Martin, which therefore is the genotype (monotypic).

König in 1825 (Icones Foss.) proposed the name *Trigonotreta* for a miscellaneous collection of forms including species now assigned to *Spirifer* and *Orthis*. He mentions *resupinatus*, *cuspidatus*, *minimus*, in his text but figures and describes only *stokesii* and *speciosus*.

Dalman in 1828 (K. Svensk. Vetensk. Acad. Handl., p. 99) referred *Spirifer cuspidatus* to *Cyrtia* with *Cyrtia exporrecta* as one of the syntypes, subsequently lectotype. Von Buch in 1840 (Mém. Soc. géol. France, sér. I) and M'Coy in 1844 (Syn. Carb. Limestone Fossils of Ireland) referred *cuspidatus* to genus *Cyrtia* Dalman. M'Coy considered *Cyrtia* to be a subgenus of *Spirifer*. He describes *Spirifer striatus* as being "very well known on the continent as the species in which Mr. Sowerby first discovered spiral appendages," a statement which may have been correct but had no bearing on the nomenclature.

King in 1850 (Permian Fossils) quoted *Spirifer* Sow., 1815 = *Cyrtia* Dalman, 1828, and stated: "This genus is typified by the *Anomites cuspidatus* of Martin . . . as the typical species *Anomites exporrectus* Wahlenberg of Dalman's *Cyrtia* agrees with type of Sowerby's *Spirifer* in form . . . I am led to assume that these genera are one and the same . . ." He revived the genus *Trigonotreta* König as = *Spirifer* auctt., but gave no type and did not refer to *Spirifer striatus*.

If any choice had existed before, the question of genotype of *Spirifer* was thus definitely settled.

Confusion was first introduced by Davidson in 1853 (Mon. Foss. Brach., Vol. I) who in discussing the genotype of *Spirifer* stated that Sowerby intended *Anomia striata* as his type and not *cuspidatus* of whose internal character he was not quite certain. He also quoted in support of his views M'Coy, 1844, and the alleged fact that King had at first taken *cuspidatus* as type of *Spirifer* and later abandoned it.

In 1857 Davidson (Mon. Foss. Brach., Vol. 2, p. 44) described *cuspidatus* as belonging to "*Spirifera*" and not to the subgenus *Cyrtia*, and also quoted *Spirifera striata* as the type of the genus "*Spirifera*."

In spite of Davidson, Meek & Hayden, 1864 (Smithsonian Contributions to Knowledge, Vol. 14, p. 18) accepted *Spirifer cuspidatus* as the genotype of *Spirifer* and revived *Trigonotreta* König, 1825 for *Spirifer striatus* and related species. The genotype of *Trigonotreta* König is, however, *T. stokesii* which is not synonymous with *Spirifer striatus*.

Meek in 1865 (Palaeontology of the Upper Missouri, p. 19) accepts *cuspidatus* as genotype of *Spirifer* and took *Spirifer striatus* as genotype of *Trigonotreta* König. This is inadmissible since this species was not mentioned by König.

In 1863 A. Winchell described his genus *Syringothyris* (Proc. Acad. Nat. Sci. Philadelphia, Vol. VII, p. 6) with genotype *S. typa* Winchell.

In 1867 Davidson and Meek, in Geol. Mag., Vol. IV, pointed out the similarity in structure of *Spirifer cuspidatus* with *Syringothyris* of Winchell.

King in 1868 (Ann. & Mag. Nat. Hist., 4th ser., Vol. 2, p. 1) assigned "*cuspidatus*" to genus *Syringothyris* and assumed its identity with *S. typa* of Winchell.

In 1877 Dall ("Index to Names which have been applied to the Subdivisions of the Class Brachiopoda," Bull. U. S. Nat. Mus., No. 8) stated correctly that *Spirifer cuspidatus*, the sole species mentioned by Sowerby in Min. Conch., 1816, after his definition of *Spirifer*, should be the genotype. In spite of this he was in favor of retaining *Spirifer striatus* as the type of *Spirifer* and of

placing *cuspidatus* in the genus *Syringothyris* of Winchell. Under heading *Trigonotreta*, Dall said "*T. stokesii* Kön. l. c. selected as type."

Davidson, 1880 (Mon. Foss. Brach., Vol. 4, p. 278) described *cuspidatus* as belonging to the genus *Syringothyris* of Winchell 1863 and placed it in the synonymy of *S. typa* Winchell.

In 1890 Schuchert (9th Ann. Rep. State Geol. New York, p. 30) distinguished *Syringothyris cuspidata* from *S. typa* but accepted it as belonging to *Syringothyris* and not *Spirifer*. *S. typa* he showed to be synonymous with *S. carteri* of Hall, which, having priority, became the genotype of *Syringothyris*.

Anomia striata has been accepted as genotype of *Spirifer* by Hall & Clarke (Paleontology, New York, Vol. 8, pt. 2, p. 7, 1894), Schuchert (Bull. U. S. Geol. Surv., 1897, p. 380), S. S. Buckman (Quart. Journ. Geol. Soc., 1908, Vol. 64, p. 29) and by others.

Hall and Clarke after a brief review of the facts stated that "an inversion of the terms could only induce lamentable disorder in nomenclature." They regarded *Trigonotreta* as a precise synonym of *Spirifer*. Buckman quoted *Trigonotreta*, genotype *stokesii*, for a group of species distinct from *Spirifer striatus*.

In 1913 F. J. North (Geol. Mag., Vol. X, p. 394), among other statements inconsistent with the data as here given, says that J. Sowerby in 1815 founded his genus *Spirifer* with *Anomia striata* as his genotype.

In 1919, J. Allan Thomson (Geol. Mag., Vol. VI, p. 371) draws attention to the fact that the generic name *Spirifer* is wrongly used for the group including *Anomites striatus* Martin, and that it should be restricted to the group including *Anomites cuspidatus* of Martin, and should replace *Syringothyris* Winchell. He is, however, in favor of retaining the genus *Spirifer* with genotype *A. striatus* contrary to the laws of nomenclature.

In consideration of these facts it is asked that the Law of Priority be suspended in the case of *Spirifer* Sowerby, and that it be fixed with *Anomia* (or *Terebratula*) *striata* Martin as genotype, leaving *Syringothyris* with *Spirifer carteri* Hall as genotype and including *Syringothyris cuspidata* (Martin).

DISCUSSION.—Commissioner Bather reports:

I have checked the references in Miss Wood's statement of the case, and I find that

(1) According to the rules the genotype of *Spirifer* is *Anomia cuspidata* Martin;

(2) According to the rules *Syringothyris* is a synonym of *Spirifer*;

(3) All writers of importance for the past 70 years, in conscious opposition to the rules, take *Anomia striata* Martin as genotype of *Spirifer*, and maintain *Syringothyris* with genotype *Spirifer carteri* Hall or a synonym thereof.

To avoid the confusion that would be introduced into two well-known Brachiopod genera, one of which is widely distributed with a large number of species, I propose as the opinion of the Commission:

That the Rules be suspended in the case of *Spirifer* and *Syringothyris* so that the former may be fixed with genotype *Anomia striata* Martin and the latter with genotype *Syringothyris typa* Winchell (= *Spirifer carteri* Hall).

In accordance with the prescribed routine, notice that Suspension of the Rules has been asked in these cases has been published in the following journals:

Nature, No. 2813, Vol. 112, p. 473, Sept. 29, 1923.

Science, No. 1508, Vol. 58, p. 422, Nov. 23, 1923.

Zoologischer Anzeiger, Vol. 58 (Heft 1-2), p. 55, Dec. 18, 1923.

Monitore Zoologico Italiano, Anno 35, No. 2-3, 1924.

As no expression of opinion against Suspension has been received by the Secretary to date (one year from publication in three journals) the Secretary calls for vote on the Opinion as prepared by Commissioner Bather, namely, that under Suspension of the Rules the genotype of *Spirifer* Sowerby, 1816, be fixed as *Anomia striata* Martin, and the genotype of *Syringothyris* Winchell, 1863, be fixed as *Syringothyris typa* Winchell (= *Spirifer carteri* Hall).

At the Budapest meeting of the Commission, Commissioner Bather was appointed a committee of one to restudy this case, and on August 30 he presented the following report:

Under Suspension of the Rules, the genotype of *Spirifer* Sowerby, 1816, is fixed as *Anomia striata* Martin instead of *Anomia cuspidata* Martin. This action makes it unnecessary to regard *Syringothyris* as a synonym of *Spirifer* even on the assumption that its genotype, *Syringothyris typa*, is congeneric with *Anomia cuspidata*.

After considerable discussion and on motion and second the conclusions were unanimously adopted by the 8 Commissioners and Alternates present, namely: Apstein, Bather, Hartert, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles.

The foregoing data were submitted in Circular Letter No. 129 to the absent Commissioners and the final vote stands as follows:

Opinion concurred in by seventeen (17) Commissioners and Alternates: Apstein, Bather, Chapman, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Muesebeck, Monticelli, Rothschild, Skinner, Stejneger, Stiles, and Warren.

Opinion dissented from by no Commissioner.

Not voting four (4) Commissioners: Dabbene, Ishikawa, Neveu-Lemaire, and Stone.

OPINION 101

NOMENCLATORIAL STATUS OF DANILEWSKY, "CONTRIBUTION À L'ÉTUDE DE LA MICROBIOSE MALARIQUE" IN *ANNALES DE L'INSTITUT PASTEUR*, 1891, VOL. 5, PAGES 758-782.

SUMMARY.—The technical Latin designations used by Danilewsky, 1891, *Annales de l'Institut Pasteur*, Vol. 5 (12), pp. 758-782, are not in harmony with the International Rules of Zoological Nomenclature and are therefore not subject to citation or the Law of Priority on basis of said publication.

STATEMENT OF CASE.—Ernest Hartman, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, has submitted the following case for Opinion:

In looking over the paper of Danilewsky, "Contribution à l'étude de la microbiose malarique" in *Annales de l'Institut Pasteur*, 1891, Vol. 5, pages 758-782, I am unable to interpret his naming under the present rules of the Commission. I refer this paper to the International Commission on Zoological Nomenclature for an interpretation of the names therein or for elimination as a source of zoological names.

DISCUSSION.—The Contribution under consideration was published at a time when there existed very divergent views regarding the malarial parasites and many articles on this subject were written by persons who were obviously not entirely at home in respect to the prevailing conceptions of genera, species, and varieties, and who were unfamiliar with the principles and practices of zoological nomenclature.

Some of these authors were obviously under the impression that zoological nomenclature consisted in using 1, 2, 3, or 4 Latin names as designations of organisms, but they evidently did not use the words in the sense of the system of nomenclature proposed by Linnaeus and adopted by zoologists and botanists. Furthermore, some of the zoologists who published on this subject either did not consider themselves governed by zoological rules or were unfamiliar with them. The result is that the nomenclature of the parasites of malaria in man and birds represents one of the most confusing chapters in the entire history of zoological nomenclature. To straighten out the difficulties authors familiar with the principles and practices of zoological nomenclature have obviously endeavored to interpret the rules as applied to this field with the utmost consideration for their colleagues who were less familiar with nomenclatorial customs.

The following extract from the Contribution under consideration will serve to give a conception of Danilewsky's viewpoint:

(P. 762) Nous allons passer maintenant à l'étude du *microbe de l'infection malarique aiguë*. Il doit être distingué de celui de la forme chronique. Tous les microbes de nature animale vivant et se développant à l'intérieur des cellules sont ordinairement appelés cytozoaires, cyto-parasites ou cyto-microbes. Ces noms indiquent le lieu où ils se trouvent. En me conformant à cette nomenclature, j'ai proposé de remplacer la dénomination du plasmodium malarique de l'homme, *Haemamaeba*, en celle de *Cytamaeba*. Mais comme chez les oiseaux le même parasite, n'étant pas mobile, n'a pas de caractère amiboïde, ce nom d'*amaeba* ne peut lui être appliqué. Aussi, et surtout à cause de la propriété fondamentale du microbe de donner des spores, je l'appellerai *Cytosporon malariae*.¹

(P. 780) Au point de vue de l'hypothèse unitaire de l'infection malarique on pourrait proposer le rapprochement suivant des diverses formes du parasite, sans entrer pour cela dans la discussion de sa place dans le système zoologique:

Cytozoon malariae hominis avium	{	Cytozoon praecox	{	(a) Haemamaeba-Cytamaeba
		s. Cytosporon		(b) Cytosporon avium
		Polymitus (c)		(d) Haemogregarina avium
		Laverania		(e) Laverania hominis

Thus two generic names are used by Danilewsky on page 762 for what he designates "le même parasite."

The table of designations given on page 780 is subject to various interpretations. Under the most favorable interpretation Danilewsky recognizes one species, *Cytozoon malariae* with 2 varieties or subspecies, *hominis* and *avium*, and attempts to harmonize early names with his nomenclature. Even this interpretation, however, does not leave the reader clear as to the author's intention; possibly he considered earlier names as inappropriate and substituted for them the generic name, *Cytamaeba*; then, considering this latter inappropriate, he appears to have substituted for it *Haemocytosporon* which he contracted to *Cytosporon*.

During the past thirty years the Secretary has repeatedly endeavored to interpret the nomenclature of Danilewsky's Contribution, but is unable to reach a conclusion which he considers in harmony with the rules of any code of nomenclature in effect at present or at date of publication of said Contribution or prior thereto. In conference with other zoologists, the Secretary has learned that they also find the same difficulty in interpreting said Contribution.

The Secretary invites the attention of the Commission to the fact that there is an enormous accumulative economic loss in science result-

¹ On ne doit voir dans ce nom provisoire (abrégé de *Haemocytosporon*) aucune allusion à une parenté de ce microbe avec les champignons, les monades ou les mycétozoaires. Sa classification zoologique sera discutée plus loin.

ing from the designations used by some authors, even in papers which represent not only interesting but valuable contributions to our knowledge of biology, physiology, anatomy, etc.; later their colleagues endeavor to show the utmost consideration and broadest possible interpretation of the rules in order to bring as many of these papers as possible into harmony with the rules. The Secretary is persuaded that as an economic measure in the interest of the advancement of science the time is opportune to judge the nomenclatorial status of many of these nomenclatorial confusions from a practical point of view and to relieve systematists from the expensive burden of time necessary in order to interpret or save the nomenclature used by authors who either innocently or purposely do not present their technical names in a reasonably interpretable method—whatever may be the value of their contributions from a standpoint of biology, anatomy, physiology, pathology, etc.

On the principle that it is incumbent upon an author who proposes new names, to familiarize himself with, and reasonably apply the rules of zoological grammar, namely, nomenclature, the Secretary recommends that the Commission adopt the following Opinion in answer to the question raised by Ernest Hartman:

The technical Latin designations used by Danilewsky, 1891, *Annales de l'Institut Pasteur*, Vol. 5 (12), pp. 758-782, are not in harmony with the International Rules of Zoological Nomenclature and are therefore not subject to citation under the Law of Priority on basis of said publication.

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Loennberg, Neveu-Lemaire, Warren, and Stone.

Opinion dissented from by no Commissioners.

Not voting, three (3) Commissioners: Kolbe, Monticelli, and Stejneger.

OPINION 102

Proteocephala BLAINVILLE, 1828, vs. *Proteocephalus*
WEINLAND, 1858

SUMMARY.—A generic name (example *Proteocephalus*, 1858) is not invalidated by the earlier publication of the identical or a similar name of higher rank (example *Proteocephala*, 1828). If *Taenia ambigua* (tod. of *Proteocephalus*, 1858) is congeneric with *ocellata* (tsd. of *Ichthyotaenia*, 1894), *Ichthyotaenia* is a subjective synonym of *Proteocephalus*.

STATEMENT OF CASE.—Prof. George R. LaRue of the University of Michigan has presented the following case for opinion:

I wish to submit for a ruling the question of the availability of the generic name *Proteocephalus* Weinland, 1858. The facts are substantially these:

Weinland (1858a, p. 53) proposed the generic name *Proteocephalus*, designating *Taenia ambigua* Dujardin as type and assigning *Taenia filicollis* and *T. dispar* to the genus.

It so happens that Blainville (1828, p. 552) had already used the name *Proteocephala* for a family of Cestodaria with the single genus *Caryophyllaeus*. The question now arises whether *Proteocephalus* Weinland, 1858, is invalidated by the prior use of *Proteocephala* Blainville, 1828, as the designation of a family. As I see it the question resolves itself into two parts, namely, whether two words differing only in termination ("us" and "a") are to be considered as homonyms, and whether the use of a name to designate a family bars the subsequent use of that name to designate a genus.

The first question seems to have been answered in the first recommendation following Art. 36 of the International Code, see Bulletin No. 24, Hygienic Laboratory, Wash., p. 47.

The second question does not seem to be covered by the Code as published in 1905. Art. 34 which governs the rejection of a generic name which has previously been used to designate another genus obviously does not apply and no recommendation appears to have been made by the Commission to cover cases similar to the one in question.

The argument against the use of the name *Proteocephalus* Weinland, 1858, has been stated by Luehe (1899, Zool. Anz., v. 22: 525-526). Since he has been followed in his use of the name *Ichthyotaenia*, by Rudin (1916), Meggitt (1914), Wagner (1917), M. Plehm (1924), it has seemed well to quote Luehe's argument:

"Railliet (1899, Sur la classification des Téniaïdés. In: Centrbl. f. Bact. u. Paraskde. Bd. 26, p. 33 f) hat inzwischen den Namen *Ichthyotaenia* Lönnb., 1894, als synonym eingezogen zu *Proteocephalus* Weinl., 1858. Dass letzterer Name an sich seines grösseren Alters wegen prioritätsberechtigt wäre, ist zuzugeben und war auch mir bekannt. Gleichwohl sehe ich keine Veranlassung ihn zu Ungunsten des bisher allgemein üblichen Gattungsnamens *Ichthyotaenia* auszugraben. Schon 1828 nämlich hat Blainville (Dict. Sci. nat., T. 57, p. 552) den Namen *Proteocephala* gebraucht für eine Cestodenfamilie (einzige Gattung *Caryophyllaeus*). Wenn nun auch dieser Name, weil den heute geltenden

Vorschriften für die Bildung der Familiennamen nicht entsprechend, in Wegfall kommt, so darf doch meines Erachtens ein homonymer Gattungsname nicht anerkannt werden. Dass es sich bei Blainville um einen Familien-, nicht um einen Gattungsnamen handelt, kommt hierbei für mich um so weniger in Betracht, als wir heute allgemein die Familiennamen von den Gattungsnamen ableiten.

“Nicht besser ist es um das Prioritätsrecht von *Tetracotylus Montic.*, 1892, bestellt. Dieser Name unterscheidet sich nur durch das Geschlecht von *Tetracotyle* Filippi, 1854, mit welchem er im übrigen vollständig gleich gebildet ist. Ich muss daher beide Namen als homonym ansehen, sonst könnte ja beispielsweise auch noch einmal der Name *Bothriocephalum* (neben *Bothriocephalus* Rud.) gebildet werden. Das in No. 4 der von der Deutsch. Zoolog. Gesellsch. bearbeiteten Nomenclaturregeln angeführte Beispiel “*Picus* und *Pica*” kann gegen diese meine Anschauung nicht geltend gemacht werden, da dies beides altlateinische Worte sind, welche schon von den Römern in der ihnen auch heute noch von uns beigelegten verschiedenen Bedeutung gebraucht wurden und welche daher mit einem anderen Massstabe gemessen werden müssen als neue Wortbildungen.

“Ich gebe zu, dass es sich hier um strittige Fragen handelt. Stiles ist, wie er mir brieflich mitgeteilt hat, hinsichtlich beider Punkte anderer Ansicht wie ich. So lange indessen diese Fragen noch nicht in einer allgemein gültigen und auch mich bindenden Weise entschieden sind (wozu diese Zeilen vielleicht die Anregung geben), beanspruche ich für mich das Recht, den bisher allgemein üblichen Gattungsnamen *Ichthyotaenia* auch fernerhin zu gebrauchen. Als typische Art dieser Gattung sehe ich *Ichthyotaenia ocellata* (Rud.) Lönnberg an, da dies nicht nur die Art ist, welche Lönnberg (Centrbl. f. Bact. u. Paraskde., Bd. 15, 1894, p. 803) an erster Stelle nennt (*I. filicollis* [Rud.] Lönnbg. ist synonym zu *I. ocellata* [Rud.] Lönnberg), sondern auch diejenige von den von Lönnberg aufgeführten Arten, welche am besten bekannt ist. . . .

“Ich bin gern bereit zuzugeben, dass dereinst vielleicht auch die *Ichthyotaenien* wieder eine Auftheilung erfahren müssen, aber vorläufig ist unsere Kenntnis der überwiegenden Mehrzahl der hierher gehörigen Arten noch viel zu gering, um eine solche Auftheilung zuzulassen. Am allerwenigsten würde dieselbe gerechtfertigt sein, wenn wirklich der Name *Proteocephalus* Weinl. zur Anerkennung gelangen sollte und damit eine *Species inquirenda* (*Taenia ambigua* Duj.). Typus der Gattung würde. Wenn übrigens Weinland in dieselbe Gattung auch die *Taenia dispar* Gze. einreihet, so ist dies zweifellos unberechtigt.”

Concerning *Tetracotylus Monticelli*, 1891, I have pointed out (LaRue, 1914) that *T. coryphicephalus*, the type of this genus, is not congeneric with *Proteocephalus filicollis*, *P. percae*, and other species of *Proteocephalus*. Hence I can not agree that *Tetracotylus* is a synonym of *Proteocephalus* and *Ichthyotaenia*.

As for *Taenia ambigua*, which Lühe considered to be a species inquirenda, I have pointed out that it is a synonym of *Taenia filicollis* Rud., (LaRue, 1914, 38-48). I am unable to accept Lühe's statement that *Ichthyotaenia filicollis* is a synonym of *I. ocellata*. The arguments for my view are too long to state here. They are given in full in my monograph (LaRue, 1914, 38-48, and 93-108).

The fact that Weinland included *Taenia dispar* in his genus *Proteocephalus* is not a serious matter.

DISCUSSION.—Professor LaRue's premises raise two distinct points. The first of formal nomenclature, the second a question of nomenclature dependent to some extent upon subjective conceptions of synonymy.

Proteocephalus Weinl., 1858a, 53, tod. *Taenia ambigua* versus the dead family name *Proteocephala* Blainville, 1828a, v. 57, 552.—Art. 34 of the International Code is unambiguous. It reads as follows: "A generic name is to be rejected as a homonym when it has previously been used for some other genus of animals. Example: *Trichina* Owen, 1835, nematode, is rejected as homonym of *Trichina* Meigen, 1830, insect."

There is nothing in Art. 34 which provides that a generic name becomes a homonym if the identical name has previously been used for a systematic unit of some other rank (for instance, species, family, order, etc.). On the contrary Art. 33 definitely states that: "A name is not to be rejected because of tautonymy, that is, because the specific or the specific and subspecific names are identical with the generic name. Examples: *Trutta trutta*, *Apus apus apus*."

The fact that *Proteocephala* is a dead family name because it is not formed in accordance with Art. 4 (ending *idae*) has no bearing upon the present case, which opens up the very broad question whether generic names are to be invalidated as homonyms because of the prior publication of an identical name for a supergeneric group. If this kind of homonymy were to be admitted, numerous cases would arise for adjudication. The history of nomenclature clearly shows that the rule of homonyms is applicable only as applied to systematic units of identical rank except in so far as the contrary might be implied from the custom of some authors to consider tautonyms as homonyms. As pointed out above, however, Art. 33 distinctly provides that tautonyms are not homonyms.

The answer to Professor LaRue's first question is, therefore, that *Proteocephala*, 1828, has no nomenclatorial bearing on *Proteocephalus*, 1858.

Proteocephalus, 1858, tod. *ambigua* versus *Ichthyotaenia*, 1894, tsd. *ocellata*.—It is to be noticed that *Taenia ambigua* is a species inquirenda fide Lühe, 1899k, but that it is a synonym of *filicollis* fide LaRue, 1914; also that *filicollis* is a synonym of *ocellata* fide Lühe, 1899k, but that it is distinct from *ocellata* fide LaRue, 1911. Thus there is a difference of opinion between Lühe and LaRue in regard to the subjective synonymy in case of the names *ambigua*, *filicollis*, and *ocellata*. This difference of opinion belongs in the field of systematic zoology, not in the field of nomenclature.

If *ambigua* and *ocellata* (the type species of *Protocephalus* and *Ichthyotaenia*) are congeneric, *Protocephalus*, 1858, has clear priority over *Ichthyotaenia*, 1894, and *Ichthyotaenia* is a subjective synonym of *Protocephalus* regardless of the subjective synonymic status of *ambigua*, *filicollis*, and *ocellata*.

On basis of the foregoing premises and argument the Secretary recommends that the Commission adopt the following opinion:

A generic name (example, *Protocephalus*, 1858) is not invalidated by the earlier publication of the identical or a similar name of different [higher] rank (example, *Protocephala*, 1828). If *Taenia ambigua* (tod. of *Protocephalus*, 1858) is congeneric with *ocellata* (tsd. of *Ichthyotaenia*, 1894), *Ichthyotaenia* is a subjective synonym of *Protocephalus*.

The foregoing Opinion was submitted at the Budapest (1927) Meeting to Lord Rothschild as special subcommittee of one for consideration and report. He reported as follows:

I desire to report on Circular Letter No. 124 that I find that *Protocephalus* as a generic name can and must stand beside *Protocephala*, as Family names and names of higher groups have no connection with generic designations.

Opinion written by the Secretary.

Opinion concurred in—

(a), regarding *Protocephalus*, by thirteen (13) Commissioners: Apstein, Bather, Chapman, Handlirsch, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Neveu-Lemaire, Stejneger, Stiles, Stone, and Warren.

Commissioner Stone states: "With the understanding that generic and subgeneric names are treated exactly alike nomenclatorially, *i. e.*, an earlier subgeneric name of identical form, renders invalid a subsequent generic name. So with species and subspecies."

Commissioner Stejneger appended a footnote, as follows: "I suggest, however, that the summary is not quite clear. The subgenus has not the same 'rank' as the genus, hence someone might argue that 'a generic name is not invalidated by the earlier publication of the identical or similar subgeneric name.' Would not 'higher' for 'different' remedy that?" [Change adopted as an editorial correction. —C. W. S.]

(b), regarding synonymy, by eleven (11) Commissioners: Bather, Chapman, Handlirsch, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Neveu-Lemaire, Stejneger, Stiles, and Warren.

Opinion dissented from—

(a), regarding *Protocephalus*, by no Commissioner.

(b), regarding synonymy, by no Commissioner.

Not voting—

(a), regarding *Protocephalus*, four (4) Commissioners: Dabbene, Hartert, Ishikawa, and Loennberg.

(b), regarding synonymy, six (6) Commissioners: Apstein, Dabbene, Hartert, Ishikawa, Loennberg, and Stone.

Votes not clear on either (a) or (b) cast by Commissioner Monticelli.

OPINION 103

THE GENERIC NAME *Grus*, TYPE *Ardea grus*

SUMMARY.—The type of *Grus* Pallas, 1767, is *Ardea grus* Linn., 1758, by absolute tautonymy. *Grus* is hereby placed in the Official List of Generic Names.

PRESENTATION OF CASE.—Dr. Witmer Stone of the Academy of Natural Sciences, Philadelphia, requests an opinion on the type of *Grus*. His presentation of case is as follows:

Application of Generic Name Grus.

In his *Systema Natura*, 1758, Linnaeus divides the genus *Ardea* into four sections, *Cristatae*, *Grues*, *Ciconiae*, and *Ardeae*.

(1) Are any of these citable as genera? The last three seem to be exactly parallel to the divisions of *Simia* regarded as subgenera by Stiles and Orleman (*Jour. of Mam.* Feb. 1926).

(2) If not citable from here, are not *Grus* and *Ciconia* citable from Pallas (*Spicilegia Zool.* IV, p. 1, 1767) as covering the species included in Linnaeus' groups?

Pallas in his work discusses and describes a new species *Grus psophia* and the genus *Grus* has recently been quoted from here as applying solely to this species (the only one mentioned) thus becoming a synonym of *Psophia*.

Previously it was regarded as applying to all the species of Linnaeus' section *Grues*, and *Ardea grus* was by tautonymy the type. This I think is the correct view. Pallas states that the birds included in *Ardea* by Linnaeus are divisible into three genera and then cites *Ardeae*, *Ciconiae* and *Grues*—the three Linnaean groups and refers to "Gruibus reliquis" in describing and comparing his new and evidently aberrant species.

DISCUSSION OF CASE.—by Commissioner Stejneger.

THE TYPE OF *Grus* PALLAS, 1767, IS *Ardea grus* LINNAEUS, 1758.

The question of the recognition of the quasigeneric names which Linnaeus and subsequent authors of the eighteenth century applied to sectional divisions of genera without apparent intention to use them nomenclatorially is so complicated and requires such extensive research, not only as to the manner of their application by these authors themselves, but particularly as to the effect their legitimation at this late date would have upon already otherwise stabilized and current nomenclature, that it is thought unwise to raise it with regard to a case which is susceptible of definite and identical settlement by other means.

The question laid before the Commission by Dr. Stone is essentially this:

What species is the type of the genus *Grus* instituted by Pallas in 1767?

The main object of Pallas' paper entitled "*Grus psophia*" (in *Spicilegia Zoologica*, fasc. 4, 1767, pp. 3-9, pl. 1) was to give a description of the bird hitherto known as *Psophia crepitans* based on autopsy of a fresh specimen of this then rare South American bird and to show that it does not constitute a separate genus, as postulated by Linné, but that it must be attached to one of the sections of the Linnaean genus *Ardea*, which Pallas, however, regards and names as a distinct genus *Grus*.

It therefore becomes necessary to review briefly the treatment accorded the two genera by Linné.

In 1758 (10 ed. *Syst. Nat.*, vol. 1, p. 154) Linnaeus has the genus *Psophia* (with one species: *crepitans*). The genus *Ardea*, with 19 species, is found on page 141. The latter Linné enumerated under four section headings as follows:

- x Cristatae: *rostro vix capite longiore* (species 1-2)
- xx Grues: *capite calvo* (species 3-6)
- xxx Ciconiae (species 7-8)
- xxxx Ardeae (species 9-19)

In the 12th Edition (pp. 263 and 233 respectively) the treatment is exactly the same, except that the section of *Ardeae* there includes eight more species (species 9-26) and that one species, *Ardea ibis*, has been transferred to the genus *Tantalus*.

Pallas begins his article as follows:

Aves ab Ill. LINNAEO sub *Ardcarum* nomine recensitae constantius et evidentissimis characteribus in tria genera, ab antiquioribus jam olim Ornithologis agnita et judiciole adoptata, distingui possunt: *Ardcarum* nempe *Ciconiarum* atque *Gruum*. (The birds enumerated by Linné under the name *Ardea* can be distinguished by constant and most obvious characters in three genera which were already recognized and judiciously adopted by the older ornithologists, viz.: *Ardea*, *Ciconia* and *Grus*.)

He then proceeds to enumerate the characters of these genera, including in *Ciconia* Linné's genus *Mycteria*, and in *Grus* the Linnaean genus *Psophia*, at the same time referring Linné's *Tantalus*, together with his *Ardea ibis* and *Ardea acquinotialis*, to *Numenius*. The sentence in which Pallas relegates the generic term *Psophia* to the synonymy of *Grus* (p. 4) reads as follows:

Ex autopsya quoque dedici, avem Americanam, quam PSOPHIAE nomine indigitarunt BARRERIUS et post eum Linnaeus, non pro peculiaris generis ave habendum, sed *Gruibus* esse accessendam, quibus characteres, habitu, moribusque convenit. (From autopsy I have also learned that the American bird which Barrère, and after him Linné, have published under the name *Psophia*,

is not to be regarded as a separate genus but must be added to the *Grues*, with which it agrees in characters, habitus, and habits.)

All this by way of introduction to a minute description of the external characters and internal anatomy of a fresh specimen of a *Psophia* from the vivarium of the Prince of Orange, which forms the real object of the memoir, since no specimen had come under the eyes of any other zoologist since the time of Marcgrave and Barrère.

It is quite obvious that Pallas did not make *Grus* a monotypic genus with *psophia* as type. The argument that he mentions no other specific term in conjunction with the generic name cannot prevail against the fact that Pallas repeatedly refers to the existence of other *Grues*, and to the species enumerated by Linné in particular.

In addition to the previous quotations it is only necessary to cite the first paragraph of his "Descriptio Gruis Psophiae" (p. 7) which reads as follows:

Magnitudo circiter *Numenii Arquatae*; sed corpus paulo crassius atque brevius. *Proportiones* membrorum omnes longe breviores etiam sunt, quam in Gruibus reliquis; ceteroquin *habitus* consimilis. (Size about that of *Numenius arquata*; but the body a little heavier and shorter. All the proportions of the limbs are also much shorter than in the other *Grues*; habitus otherwise entirely similar.)

"The other *Grues*" refers plainly to the species enumerated by Linné in the tenth edition,¹ viz.: *Ardea canadensis*, *A. grus*, *A. americana*, and *A. antigone*.

The type of the genus *Grus* Pallas must therefore be looked for among one of these species (including of course *Grus psophia* Pallas) in which case *Ardea grus* Linné becomes the type by tautonymy.

REMARKS BY THE SECRETARY.—Commissioner Apstein (1915a, 195) agrees with Commissioner Stejneger that *grus* Linn., 1758, is a type of *Grus* Pallas, but both he and Sherborn date the latter as 1766, instead of 1767.

The Secretary views *Grus* as dating from Linn., 1758a, tat. *Ardea grus*.

As the argument by Stejneger and the data by Apstein give the same general results as the argument by the Secretary, and as the question of date appears to be non-essential in disposing of the case, the Secretary supports the conclusions by Stejneger and Apstein and does not emphasize his own view as to date.

The Secretary moves that:

If Commissioner Stejneger's Opinion on *Grus* is adopted by the Commission, the generic name *Grus* Pallas, 1766 or 1767, tat. *Ardea grus*, is hereby placed in the Official List of Generic Names.

¹ By referring specifically to *Ardea ibis*, see above, Pallas shows that he is dealing with the 10th edition though it makes no difference inasmuch as the 12th edition is identical in the treatment of the *Grues*.

The foregoing Opinion was submitted to the Commission in Circular Letter No. 112.

Opinion prepared by Commissioner Stejneger.

Opinion concurred in by sixteen (16) Commissioners, namely: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Neveu-Lemaire, Stejneger, Stiles, Stone, and Warren.

Opinion dissented from by no Commissioners.

Not voting, two (2) Commissioners: Ishikawa, and Monticelli.

Secretary's motion concurred in by fifteen (15) Commissioners, namely: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Loennberg, Monticelli, Neveu-Lemaire, Stiles, Stone, and Warren.

Secretary's motion dissented from by no Commissioner.

Not voting, three (3) Commissioners: Kolbe, Stejneger, and Ishikawa.

OPINION 104

57 GENERIC NAMES PLACED IN THE OFFICIAL LIST

SUMMARY.—The following 57 generic names, with type species cited, are hereby placed in the Official List of Generic Names:

PROTOZOA: *Bursaria*, *Eimeria*, *Laverania*, *Plasmodium*, *Sarcocystis*.

CESTODA: *Ligula*.

NEMATODA: *Filaria*, *Heterodera*, *Rhabditis*, *Strongylus*, *Syngamus*.

OLIGOCHAETA: *Euchytraeus*.

HIRUDINEA: *Haemadipsa*, *Limnatis*.

CRUSTACEA: *Armadillidium*, *Astacus*, *Cancer*, *Diaptomus*, *Gammarus*, *Homarus*, *Nephrops*, *Oniscus*, *Pandalus*, *Penaeus*, *Porcellio*.

XIPHOSURA: *Limulus*.

SCORPIONIDEA: *Scorpio*.

ARANEAE SEU ARANEIDA: *Aricularia*, *Dendryphantes*, *Dysdera*, *Latrodectus*, *Segestria*.

ACARINA: *Cheyletus*, *Chorioptes*, *Demodex*, *Dermanyssus*, *Glyciphagus*, *Polydesmus*, *Psoroptes*, *Rhizoglyphus*, *Trombidium*.

THYSANURA: *Lepisma*.

COLLEMBOLA: *Podura*.

ORTHOPTERA: *Blatta*, *Ectobius*, *Gryllus*, *Periplaneta*.

ANOPLURA: *Pediculus*, *Phthirus*.

HEMIPTERA: *Anthocoris*, *Nabis*, *Notonecta*, *Reduvius*, *Triatoma*.

DERMAPTERA: *Forficula*.

SUCTORIA S. SIPHONAPTERA S. APHANIPTERA: *Pulex*.

MAMMALIA: *Cercopithecus*.

PRESENTATION OF CASE.—The Secretary's Circular Letter No. 122 contained a list of 61 names suggested for inclusion in the Official List of Generic Names. Practically all of these are in Commissioner Apstein's (1915) list of *Nomina Conservanda*. The addition of *Laverania* is made in order to meet a difference of opinion among specialists as to classification.

The Secretary has personally checked these names and believes that they are all nomenclatorially available and valid, and that, therefore, they can be adopted in harmony with the Rules instead of as *Nomina Conservanda*. He has changed the dates given by Commissioner Apstein in several instances to agree with the dates found in Washington.

The Secretary has altered several genotypes given by Commissioner Apstein as the genera were published as monotypic. These alterations do not however influence the position of the genera.

The Notice that the 61 names in question were under consideration was published in *Science*, May 13, 1927, v. 65 (1689), pp. 471-472, and *Zoologischer Anzeiger*, v. 71 (1/2), p. 64.

Objection or question of one sort or another has been raised to five of the 61 names (*Atropos*, *Daphne*, *Termes*, *Nepa* and *Corixa*), and these have, therefore, been tabled, temporarily and without prejudice.

In addition to the 56 names in the Secretary's Circular Letter No. 122, one name (*Cercopithecus* from Circular Letter No. 102) is added to the list. This name had been tabled temporarily pending a conference between Commissioner Apstein and the Secretary. This conference has been held and the slight differences of Opinion on the case have been harmonized, thus making the vote unanimous. Commissioner Apstein was appointed a special committee of one for special study of this case.

The list of 57 names follows (for complete bibliographic references see standard nomenclators and bibliographies; the letters, as 1758a, are taken from Stiles and Hassall, Index Catalogue):

PROTOZOA:

Bursaria Mueller, 1773a, 62, tsd. *truncatella*.

Eimeria Schneider, 1875d, xli, mt. *falciformis* (erroneously quoted as *simplex* in *Zool. Record*, v. 12, Prot., 579), type host *Mus musculus*.

Laverania Grassi & Feletti, 1890a, 60, mt. *malariae* (homonym) so. *falcipara* Welch, 1897, 36, 47, type host *Homo*. [For authors who consider the parasite of aestivo-autumnal malaria generically distinct from that of quartan malaria.] Not *Laverania* Labbé, 1899a, 82, type *ranarum*, type host *Rana esculenta*.

Plasmodium Marchiafava & Celli, 1885d, 791, mt. tsd. *malariae* (as restricted to quartan fever), type host *Homo*.

Sarcocystis Lankester, 1882, QJMS. 54, mt. *miescheri* syn. *miescheriana*.

CESTODA:

Ligula Bloch, 1782a, 1, pl. 1, figs. 1-2, tsd. *avium*.

NEMATODA:

Filaria Mueller, 1787a, 64-67, tsd. *martis*.

Heterodera Schmidt, 1871a, 1, mt. *schachtii*.

Rhabditis Dujardin, 1845a, 230, 239-243, tsd. (1865) *terricola*.

Strongylus Mueller, 1780, pl. 42, figs. 1-12; or Goeze, 1782a, 41, 137; mt. *equi* = tsd. *equinus*. Absolute synonym *Sclerostoma* Rud., 1809a, 35, type *equinum*.

Syngamus Siebold, 1836a, 105-116, mt. *trachealis* Sieb., syn. of *trachea*.

OLIGOCHAETA:

Enchytraeus Henle, 1837, Arch. Anat. Phys. Med., 74, mt. *albidus*.

HIRUDINEA:

Haemadipsa Tennent, 1859, Ceylon, v. 1, 302, mt. *zeylanica* Moq.-Tand., 1827a, 120; or ?1826.

Limnatis Moq.-Tand., ?1826; or 1827a, 122, mt. *nilotica* Sav., 1820, 113.

CRUSTACEA:

Armadillidium Brandt, 1831, Thiere in der Arzneimittel, v. 2, 81; or 1833, Bull. Soc. imp. nat. Moscow, 184, tsd. (1915) *vulgare* Latr., 1804c, 47, so. *armadillo* Linn., 1758a, 637.

Astacus Pall., 1772, 81; and Fabr., 1775a, 413, tat. *Cancer astacus* Linn., 1758a, 631, syn. *fluviatilis* Fabr., 1775a, 413.

Cancer Linn., 1758a, 625, tsd. (1810) *pagurus*.

Diaptomus Westwood, 1836, Brit. Encyclop., v. 2, 228, type *Cyclops castor*.

Gammarus Fabr., 1775, 418, tsd. (1810) *pulex* Linn., 1758a, 633.

Homarus Fabr., in Weber, 1795a, 94, tsd. *gammarus* = *marinus*. s. *vulgaris*. Same as Milne-Edw., 1837, HnC, 329, 333.

Nephrops Leach, 1815, Edinb. Encycl., v. 7, 398; 1815, TLSL, 344; mt. *norevegicus*.

Oniscus Linn., 1758a, 636, tsd. (1804) *asellus* Linn., 1758a, 637, (1810) *murarius* 1792 so. *asellus*.

Pandalus Leach, 1815, TLSL, 376, mt. *annulicornis*.

Penaeus Fabr., in Weber, 1795a, 94 (1798 emendation of 1795 misprint) tsd. (1810) *monodon*.

Porcellio Latr., 1804c, 39, 49, tod. *Oniscus scaber* Latr., 1804.

XIPHIOSURA:

Limulus Mueller, 1785, 124, tsd. (1810) *polephemus* Linn., 1758a.

SCORPIONIDEA:

Scorpio Linn., 1758a, 624, tsd. (1810) *europaeus* Linn., 1758a.

ARANEAE SEU ARANEIDA:

Avicularia Lam., 1818a, 107, tat. *avicularia* Linn., 1758a.

Dendryphantus Koch, 1837a, 31, tsd. (1869) *hastatus*.

Dysdera Latr., 1804, Nonv. Dic. Hist. nat., 34, mt. *punctoria* Latr., 1804 syn. *erythrina*.

Latrodectus Walck., 1805, 81, tsd. (1810) *13-guttatus*.

Segestria Walck., 1805, 48, tsd. (1810) *florentina*.

ACARINA:

Cheyletus Latr., 1796a, 179, mt. *cruditus*.

Chorioptes Gerv., in Gerv. & Ben., 1859a, 463, tod. *caprae*.

Demodex Owen, 1843, 252, mt. *folliculorum* Simon, 1842, 218-237, pl. 11.

Dermanyssus Dugès, 1834, Ann. Sci. nat., 18, tsd. *gallinae* deGeer, 1778a, 111, pl. 6, fig. 8, syn. *avium*.

Glyciphagus Hering, 1838, 619, type *domesticus*.

Polydesmus Latr., 1802b, 44, mt. *complanatus*.

Psoroptes Gerv., 1841a, 9, mt. *equi* Gerv., 1841a, 9.

Rhizoglyphus Clap., 1869a, 506, tod. *robini* Clap., 1869.

Trombidium Fabr., 1775a, 430, tsd. (1810) *holosericeum* Linn., 1758a, 617.

THYSANURA:

Leptisma Linn., 1758a, 344, 608, tsd. (1810; 1915) *saccharina* Linn., 1758a, 608.

COLLEMBOLA:

Podura Linn., 1758a, 344, 608, tsd. (1810) *plumbea* [; tsd. antedated (1915) *aquatica*].

ORTHOPTERA :

- Blatta* Linn., 1758a, 342, 424, tsd. (1810; 1915) *orientalis* Linn., 1758a, 424.
Ectobius Stephens, 1835, Ill. Brit. Ent. Mandib., v. 6, 45, tsd. (1840) *Blatta lapponica* Linn., 1758a, 425.
Gryllus Linn., 1758a, 342, 425, tsd. (1810; 1915) *campestris* Linn., 1758a, 428.
Periplaneta Burm., 1838, Handb. Ent., v. 2, 502, tsd. (1903) *Blatta americana* Linn., 1758a, 424.

ANOPLURA :

- Pediculus* Linn., 1758a, 610, tsd. (1810) *humanus*, restricted later to syn. of tsd. (1915; 1916) *capitis*.
Phthirus Leach, 1815, Edinb. Encycl., v. 9 (1), 77, mt. *inguinalis* so. *Pediculus pubis* Linn., 1758a, 611. Same as *Phthirus*, emendation.

HEMIPTERA :

- Anthocoris* Rodhe in Fallén, 1814, 9, tsd. (1840; 1910; 1915; 1917) *Cimex nemorum* Linn., 1761, 254, so. *sylvestris* Linn., 1758a, 449.
Nabis Latr., 1802b, 248, tsd. (1840; 1917) *vagans* Fabr., so. (tsd. 1915) *Cimex ferus* Linn., 1758a, 449.
Notonecta Linn., 1758a, 343, 439, tsd. (1810; 1915) *glauca* Linn., 1758a, 439. Europe.
Reduvius Fabr., 1775a, 729, tsd. (1810; 1840; 1915; 1917) *Cimex personatus* Linn., 1758a, 446 [; tsd. by error (1803) *fuscipes*].
Triatoma Laporte, 1832, Mag. de Zool., v. 2, 11, mt. *gigas* Fabr. = *rubrofasciatus* deGeer; tsd. (by error, 1915) *infestans*.

DERMAPTERA :

- Forficula* Linn., 1758a, 342, 423, tat. (1758) and tsd. (1810; 1915) *auricularia* s. (1758) *forficula* s. *vulgaris*.

SUCTORIA s. SIPHONAPTERA s. APHANIPTERA :

- Pulex* Linn., 1758a, 614, tsd. (1810; 1915) *irritans* Linn., 1758a, 614. Europe.

MAMMALIA :

- Cercopithecus* Linn., 1758a, 26, tsd. (1926) *Simia diana* Linn., 1758a, 26.

Opinion concurred in by eleven (11) Commissioners: Apstein, Chapman, Dabbene, Horvath, Ishikawa, Jordan (D. S.), Monticelli, Neveu-Lemaire, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, seven (7) Commissioners: Bather, Handlirsch, Hartert, Jordan (K.), Kolbe, Loennberg, Stejneger.

SMITHSONIAN MISCELLANEOUS COLLECTIONS

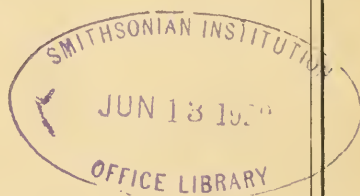
VOLUME 73, NUMBER 6

OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 105 TO 114



(PUBLICATION 3016)



CITY OF WASHINGTON
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OPINION 105

DYBOWSKI'S (1926) NAMES OF CRUSTACEA SUPPRESSED

SUMMARY.—Resolved: That all of the new names published in Dybowski's paper, "Synoptisches Verzeichnis mit kurzer Besprechung der Gattungen und Arten dieser Abteilung der Baikalflohkrebse" (Bul. internat. Acad. polonaise d. Sci. et d. Lettres, 1926, No. 1-2b, Jan.-Feb., pp. 1-77), are hereby suppressed, under Suspension of the Rules, on the ground that the application of the Rules in accepting them "will clearly result in greater confusion than uniformity."

STATEMENT OF CASE.—Miss Mary J. Rathbun, U. S. National Museum, has raised the question whether the new designations of genera and species published by Dybowski in "Synoptisches Verzeichnis mit kurzer Besprechung der Gattungen und Arten dieser Abteilung der Baikalflohkrebse" (Bul. internat. Acad. polonaise d. Sci. et d. Lettres, 1926, No. 1-2b, Jan.-Feb., pp. 1-77) are available under the International Rules, and, if so, whether it is not wise to suppress the names under Suspension of the Rules on the ground that the acceptance of the names under the Rules will produce greater confusion than uniformity. As examples of the designations in question she cites the following:

Siemienkiewiczichnogammarus siemienkiewitschi,
Cancelloidokytodermogammarus (Loveninuskytodermogammarus) loveni,
Axelboeckiahytodermogammarus carpenteri,
Garjajewiahytodermogammarus derzhavini,
Parapallaseahytodermogammarus boroeskii var. *dichrous*.

DISCUSSION.—Notice to the zoological profession that this paper was under consideration for suppression by Suspension of the Rules has been published as follows:

Monitore Zoologico Italiano, Anno 38, 1927, no. 9.

Nature, vol. 119, June 4, 1927.

Zoologischer Anzeiger, Band 71 (11-12), 28 Mai, 1927.

The question was laid before the Commission in the Secretary's Circular Letter No. 120, dated March, 1927, with request for sugges-

tions from the Commissioners as to the best procedure. In reply to this Circular Letter the following suggestions reached the Secretary:

A.—The following thirteen Commissioners suggested that the names should be suppressed: Apstein, Bather, Chapman, Haudlirsch, Horvath, D. S. Jordan, K. Jordan, Kolbe, Loennberg, Neveu-Lemaire, Stiles, Stone, and Warren;

B.—The following four Commissioners suggested that the names should be suppressed under Suspension of the Rules: Horvath, D. S. Jordan, Stiles, and Warren;

C.—The following two Commissioners suggested that the names are not available under the Rules: Kolbe and Loennberg;

D.—The following two Commissioners suggested that the question be further discussed in the August 1927 (Budapest) meeting of the Commission: Bather and Monticelli;

E.—The following four Commissioners suggested that the author be requested to introduce for the designations in question names more in harmony with the International Rules: Chapman, D. S. Jordan, Stiles, and Stone;

F.—Not voting, four Commissioners: Dabbene, Hartert, Ishikawa, and Stejneger.

The Secretary has communicated with Professor Dybowski who has replied that he intended the designations in question only as provisional names and that the time is not ripe for the definite naming of these animals.

In Circular Letter No. 138 the attention of the Commission was invited to the fact that 13 of the 14 Commissioners who replied to Circular Letter No. 120 agree that the designations in question should be suppressed and that the only difference of opinion which had arisen involved the question whether they should be suppressed under Suspension of the Rules or whether they should be declared not available under the Rules. No Commissioner voted for the retention of the names.

Professor Dybowski's statement that the names were only provisional implies that an author may suggest a provisional name and afterwards change it. This suggestion, however, is not in harmony with Article 32.

The names are available under Article 8j & k, and the question that they have not been published has not been raised by any person. On the contrary, they have distinctly been published under Article 25 of the International Rules.

It appears to the Secretary that of the two methods suggested (namely, suspension or unavailability) the suppression of the names under Suspension of the Rules is the more practical, although either method would bring about the same ultimate result, and that by suppressing the names under Suspension of the Rules, this result will

be obtained without the necessity for discussion of the question of availability, upon which there would appear to be a possible difference of opinion. Accordingly, the Secretary recommends that the Commission adopt the following resolution:

Resolved: That all of the new names published in Dybowski's paper, "Synoptisches Verzeichnis mit kurzer Besprechung der Gattungen und Arten dieser Abteilung der Baikalflohkrebe" (Bul. internat. Acad. polonaise d. Sci. et d. Lettres, 1926, No. 1-2h, Jan.-Feb., pp. 1-77), are hereby suppressed under Suspension of the Rules on the ground that the application of the Rules in accepting them "will clearly result in greater confusion than uniformity."

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Stone, Stiles, Ishikawa, Warren.

Opinion dissented from by no Commissioner.

Not voting, four (4), Commissioners: Dabbene, Loennberg, Neveu-Lemaire, Stejneger.

OPINION 106

THE TYPE OF *Oestrus* LINN., 1758, IS *O. ovis*.

SUMMARY.—The type of *Oestrus* Linn., 1758, is *O. ovis* (Art. 30g). Latreille's designation of *Oestrus equi* Fabr. as type of *Oestrus* is not valid (Art. 30g). The following five names of dipterous genera are hereby placed in the Official List of Generic Names: *Cephenemyia* (type *trompe*), *Gasterophilus* (type *equi* of Clark, synonym of *intestinalis* de Geer), *Hypoderma* (type *bovis*), *Oedemagena* (type *tarandi*), and *Oestrus* (type *ovis*).

STATEMENT OF CASE.—Professor W. S. Patton, Liverpool School of Tropical Medicine, has submitted the following case:

I am writing to request you to place before the Commission on Zoological Nomenclature data on which an application is based for Suspension of the Rules of Priority on the following cases: *Oestrus* L., 1758 (*Gasterophilus* Leach, 1817, nec *Gastrophilus* auct.) with *Oestrus intestinalis* de Geer as type, and to place *Gasterophilus* Leach, 1817, in the Official List of Generic Names with *G. intestinalis* as type; *Cephalemyia* Latr., 1810, with *C. ovis* L. as type, and to place *Oestrus* L. in the Official List of Generic Names with *O. ovis* as type.

The facts connected with the nomenclature of the horse bots and warble flies are briefly as follows: In 1758 Linnaeus founded the genus *Oestrus* including in it the following five species, the first being the type of the genus.

1. *Oestrus bovis* [type host *Bos taurus*].
2. *Oestrus tarandi* [type host *Cervus tarandus*].
3. *Oestrus nasalis* [type host *Equus caballus*].
4. *Oestrus haemorrhoidalis* [type host *Equus caballus*].
5. *Oestrus ovis* [type host *Ovis aries*].

It is quite clear from the description of *Oestrus bovis* that Linnaeus meant the common horse bot which has for more than a century been known as *Gasterophilus intestinalis* de Geer (*equi* Clark), and not the equally familiar warble fly of cattle, *Hypoderma bovis*. In 1818 Latreille revised these species and erected four genera for the reception of the Linnaean species as follows:

1. *Hypoderma* for *Oestrus bovis*.
2. *Cephalemyia* for *Oestrus ovis*.
3. *Oedemagena* for *Oestrus tarandi*.
4. *Cephenemyia* for *Oestrus nasalis*.

In 1817 Leach erected the genus *Gasterophilus* (nec *Gastrophilus* auct.) with *bovis* L. (*equi* Clark) as type, and included in it *haemorrhoidalis* L. Clark later clearly recognized Linnaeus's original mistake, and pointed out that many of the older authors used the name *bovis* in this erroneous sense.

Without going further into this extremely involved question of nomenclature, it is clear that if the Law of Priority is to be strictly adhered to, the horse bots should be placed in the genus *Oestrus* and the common species known specifically as *bovis*. The results would then be as follows:

1. It would be necessary to erect a new genus for the warble flies of cattle and goats, flies now placed in the genus *Hypoderma*.

2. The horse bots would have to be placed in the genus *Oestrus* (synonym *Gasterophilus*) with *bovis* as type.

3. The ruminant nasal bots would have to be placed in the genus *Cephalemyia* with *ovis* as type.

These changes have already been partially adopted in the "Review of Applied Entomology," Series B, Medical and Veterinary, and if you will refer to recent summaries of papers of these flies in this Review, you will see that the horse bots are placed in the genus *Oestrus* and the nasal bots in the genus *Cephalemyia*. This change has already been accepted as authoritative by some writers.

The strict application of the Rule of Priority causing such a transfer will result in the utmost confusion involving generic, subfamily, and family names and designation in both veterinary and human medicine. As a teacher of medical and veterinary entomology I am strongly of the opinion that Suspension of the Rules, thereby validating accepted nomenclature, which has been in consistent use for more than a century in veterinary medicine, is highly desirable.

I am aware that *Oestrus* L., 1758, type *ovis* was suggested for adoption in the Official List by the Commission in 1913, but I am not aware as to whether it has been formally adopted.

The documents were submitted by the Secretary to the Committee on Nomenclature of the Entomological Society of Washington for special study and this Committee has presented two reports (April 11, 1927, and May 12, 1928), summarized as follows:

The genus *Oestrus* was described by Linnaeus in 1758 (Syst. Nat., 10th ed., p. 584) and included the following five species:

1. *Oestrus bovis*.
2. *Oestrus tarandi*.
3. *Oestrus nasalis*.
4. *Oestrus haemorrhoidalis*.
5. *Oestrus ovis*.

The first species, *bovis*, was composite, as the original description described the adult which is now known as *Gasterophilus intestinalis* de Geer, while the larva and habits were those common to the species now known as *Hypoderma bovis*. None of the species was designated as type by the original describer.

In 1810 (Consid. Générales, p. 444) Latreille named as type of *Oestrus*, "*Oestrus equi* Fabr.," 1787.

In 1818 (Nouv. Dict. d'Hist. nat., vol. 23, pp. 271-274) Latreille proposed four genera, removing four of the species originally included in the genus *Oestrus*. The first species, *bovis*, as applied to the larva, was referred to *Hypoderma*; the second species, *tarandi*, was made the type of *Oedemagena*; the third species, *nasalis*, was not mentioned by name, but *trompe* Fabr., which is the same as *nasalis*, was made the type of the genus *Cephemyia*; and the fifth species, *ovis*, was made the type of the genus *Cephalemyia*. In this work Latreille restricted the genus *Oestrus* to *equi* Fabr. and *haemorrhoidalis*, the fourth species.

Apparently writers have not followed Latreille, and in 1826 Curtis (Brit. Ent., vol. 3, p. 106) designated in a very definite manner, by the use of the words "type of the genus," *Oestrus ovis* as the type of *Oestrus*.

Since 1826 dipterologists have generally followed Curtis' designation and have considered the nasal bots of sheep as belonging to the genus *Oestrus*, the warble flies of cattle and goats as belonging to the genus *Hypoderma*, and the horse bot flies as belonging to the genus *Gasterophilus*, a genus proposed by Leach in 1817. However, in recent years some workers have considered that Latreille's designation of 1810 made it necessary to use the name *Oestrus* for the horse bots and have resurrected the name *Cephalemyia* for the nasal bots of sheep.

This committee has examined into the literature and finds that Clark was not the first author to propose the name *equi*. The name *equi* was first proposed by Fabricius in 1787 (Mantissa Insectorum, vol. 2, p. 321) as follows:

- "4. O. alis immaculatis, thorace ferrugineo, abdomine nigro: pilis flavis.
- a. *Oestrus nasalis* Sp. Ins. 2. 399. 4.
- b. *Oestrus haemorrhoidalis* Sp. Ins. 2. 399. 5.
- a. et b. merae varietates nullo modo specie sed tantum loco diversae."

This same description and understanding of *equi* was used by Fabricius in Entomologia Systematica, vol. 4, 1794, p. 232.

Clark in 1797 (Trans. Linn. Soc., vol. 3, pp. 289-328) considers *Oestrus equi* Fabr. of the Syst. Ent. to be the same as *Oestrus veterinus*, and *Oestrus equi* var. b. as a synonym of *Oestrus haemorrhoidalis*; and very definitely points out that *Oestrus bovis* Linn. is a composite species, the adult described being a species which is a common horse bot and for which he uses the name *equi*, and the larva and habits being those of the common warble flies, for which he uses the name *bovis*. Dipterists have apparently followed Clark's usage and many of them have credited the name *equi* to Clark rather than to Fabricius. It would seem, however, that this is untenable, and that the name *equi* Clark must be considered as a homonym and the species commonly known as *equi* should have a different name. The name *intestinalis* de Geer is available. *Oestrus intestinalis* de Geer was described from the immature stages, but recently has been accepted by certain workers as the proper name for *equi*.

Students who have claimed that Latreille in 1810 designated the type of *Oestrus* have undoubtedly been in error, because the name *equi* was not included in the original account of the genus either as a name of a valid species or as one of the components of a composite species. From the information available—namely, that which has been presented by Dr. Patton and the literature which has been examined—the committee is of the opinion that the first valid designation for the type of the genus *Oestrus* is that of Curtis in 1826, when he named *Oestrus ovis* as the type.

Even admitting that the species *equi* Fabr., designated type of *Oestrus* by Latreille, 1810, was originally included within the genus by Linnaeus—and this can be done only because Fabricius' *equi* is a new name for *nasalis* and *haemorrhoidalis*—the designation by Latreille would not hold, for the *equi* he cited is a composite of two of the forms originally included and the designation is equivalent to citing two of the originally included species as type. Since only one of the species originally included can be selected as type, regardless of subjective synonymy, the 1810 designation of Latreille does not hold.

According to our findings it is not necessary to set aside any of the Rules or Opinions of the International Commission or to suspend the Law of Priority. Summarizing briefly the findings, we have the following:

Oestrus Linn., 1758, type *ovis* by designation of Curtis, 1826. (Westwood, 1840 [Int. Mod. Class. Ins., vol. 2, p. 154] did not concur but designated *Oestrus bovis* Fabr. as type. This selection is untenable, as Curtis' has priority.)

Syn. *Cephalemyia* Latr., 1818, type *ovis* (Monobasic-Isogenotypic). (Westwood, 1840, also uses *ovis* as type of *Cephalemyia*.)

Gasterophilus Leach, 1818,¹ proposed for three species, *equi* Clark, *haemorrhoidalis* Linn., and *clarkii* n. sp. *Equi* was designated as the type by Curtis, 1826 (p. 146). (Westwood, 1840, used the same species as type.)

Hypoderma Latr., 1818, type *bovis* Linn. as restricted by Clark.

Cephenemyia Latr., 1818, type (*Oestrus trompe* Fabr. =) *O. nasalis* Linn. (Monobasic).

Oedemagena Latr., 1818, type *tarandi* L. (Monobasic).

It is recommended that the foregoing five generic names, with types as designated, be placed in the Official List of Generic Names.

Opinion written by S. A. Rohwer. Concurred in by Drs. J. M. Aldrich, E. A. Chapin, A. C. Baker and Carl Heinrich.

DISCUSSION BY SECRETARY.—The Secretary has reverified Linn. (1758), and Latr. (1810 and 1818) which are the most important papers involving the type designations of *Oestrus* prior to Curtis (1826). He reaches the same conclusion in regard to the invalidity of the designation by Latreille.

On basis of the study by Rohwer and his colleagues, the Secretary recommends that the Commission adopt as its opinion the following:

1. The type of *Oestrus* Linn., 1758a, 584, is *Oestrus ovis*, as definitely designated (Art. 30g) by Curtis, 1826.

2. Latreille's (1810) designation of *Oestrus equi* as type is not valid, as this (*equi*) contained two of the original species, hence was not designation of one original species as type.

Further the Secretary recommends the adoption of the proposal by Rohwer and his colleagues that the following five names be placed in the Official List of Generic Names:

Cephenemyia Latr., 1818, Nouv. Dict. Hist. nat., vol. 23, 271, mt. *trompe* Fabr., syn. of *Oestrus nasalis* Linn., 1758a.

¹The usual reference to this genus is 1817. Although the paper in which the generic name was proposed was read before the Wernerian Natural History Society on April 6, 1811, it was published in volume 2 of the Memoirs of this society, which is dated 1818, and we cannot find any indication in the volume itself to prove that it was published in 1817. It is certain that Leach's paper was published prior to Latreille's because Latreille in his 1818 paper refers to *Gasterophilus* Leach.

Gasterophilus Leach, 1817, Brewster's Edin. Encycl., vol. 12 (1), 162; tsd. (1826; 1840; 1910; 1915) *equi* of Clark, 1797 [not Fabr., 1787] syn. of *intestinalis* de Geer, 1776.

Hypoderma Latr., 1818, Nouv. Dict. Hist. nat., vol. 23, Sept., 272, mt. *bovis* [not *Hypoderma* Geoffr., 1828, Dict. Class. Hist. nat., vol. 14, Sept. or Oct., 707, mammal].

Oedemagena Latr., 1818, Nouv. Dict. Hist. nat., vol. 23, 272, mt. *Oestrus tarandi* Linn., 1758a.

Oestrus Linn., 1758a, 584; tsd. (1826; 1910; 1915) *ovis*. Absolute syn. is *Cephalemyia* Latr., 1818, mt. *ovis*.

Opinion prepared by Dr. Rohwer and colleagues.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Handlirsch, Hartert, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Kolbe, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, four (4) Commissioners: Dabbene, Loennberg, Neveu-Lemaire, Stejneger.

OPINION 107

Echinocyamus pusillus vs. *Echinocyamus minutus*

SUMMARY.—The case of *Echinocyamus pusillus* vs. *Echinocyamus minutus* is subject to two diametrically opposed interpretations. On basis of the principle that a name in current use is not to be supplanted by an earlier but rarely adopted or an unadopted name unless the argument is unambiguous and unless the premises are not subject to difference of opinion, the Commission, because of the somewhat uncertain status of *minutus*, is of the Opinion that *pusillus* 1776 should not be suppressed by *minutus* 1774.

STATEMENT OF CASE.—The following case has been submitted by Dr. Th. Mortensen, Copenhagen, for Opinion:

The name *pusillus* dates from 1776, when O. Fr. Müller [1776a] in his "Zoologiae Danicae Prodomus," p. 236, established the species *Spatagus pusillus*. The diagnosis "ovalis, ambulacris quinis, ano remoto," although short, is sufficient for distinguishing the species from the two other *Spatagus*-species there described, and the species was later on excellently figured on Plate 91 of the "Zoologia Danica," so that there is not the slightest doubt about which species is meant by the "*Spatagus pusillus*" of the "Prodomus."

In 1778 the name *Echinocyamus angulosus* was given to the same species by N. G. Leske, in his "Additamenta ad Jac. Th. Kleinii Naturalem dispositionem Echinodermatum," p. 151. But, of course, the name *pusillus* has priority. As a matter of fact, this common European species has almost universally been designated as *Echinocyamus pusillus* (O. Fr. Müller)—until in 1914 H. L. Clark, in the work "Hawaiian and other Pacific Echini. The Clypeastridae, Arachnoididae, Laganidae, Fibulariidae and Scutellidae" (Mem. Mus. Comp. Zool., vol. 46 (1), p. 61), designated it as *Echinocyamus minutus*, reviving the name *Echinus minutus* from P. S. Pallas (1774) Spicilegia Zoologica, Fasc. 10, stating: "When Pallas' description of his *Echinus minutus* is carefully examined in connection with his fig. 25, pl. 1, and due consideration is given to his remarks about habitat and occurrence, it is almost impossible to doubt that his name was given to the fibulariid which O. F. Müller two years later called *Spatagus pusillus*. Although *Echinocyamus pusillus* is the name used in the Revision and other later publications, I am therefore obliged to replace it with *Echinocyamus minutus* (Pallas)."

In my paper "Notes on some Scandinavian Echinoderms, with Descriptions of Two New Ophiurids" (Vidensk. Medd. Dansk Naturhist. Foren., Bd. 72, 1920, p. 69) I objected to this: "On examining Pallas' description of this '*Echinus minutus*'" it is, however, easily seen that he does not name any *Echinus minutus* at all. He writes:¹ "In Tabula I hujus fasciculi sub figura 24 & 25 Echinus minutos adjeci, de quibus hic verbulo,"² which means "I have added some small sea-urchins." Nowhere does he name a species "*Echinus minutus*"; if he had so named a species he would not have omitted a reference

¹ P. S. Pallas, Spicilegia Zoologica, Fasc. 10, 1774 (p. 34).

² In the quotation erroneously "verbiculus."

to it in the index at the end of the fascicle, where all the species described are very carefully cited; but the name is not found there. Thus the name *pusillus*, published in 1776, undoubtedly has priority, even under the strictest interpretation of the priority rule. The fact that Gmelin¹ in [1790] 1788 and Blainville² in 1834 made the same interpretation as Clark (1914) does not alter the fact that there is no "*Echinus minutus* Pallas."

Furthermore it is beyond doubt that, even if Pallas had really meant to give the scientific name *Echinus minutus* to these small sea-urchins, this name could not rightly have been used for *Echinocyamus pusillus*. There is no doubt that his figure 25 really represents this species, as becomes quite evident from his statement "Abundat hic autem inter minuta testacea arenae Belgicae"; there is no other echinoid occurring on the Belgian coasts with which it could be confounded, and I personally have collected a number of specimens on the sandy beach near Ostend. But Pallas refers to two different forms with his "Echinos minutos"; the first of them, fig. 24, "priore icone expressus subglobosus ex Orientali India crebro adfertur"; this species is beyond doubt a *Fibularia*, and if there had really been an "*Echinus minutus* Pallas" the name would then have to be applied to this East Indian form, not to the second form referred to by Pallas, that from the Belgian coast."

In his "Catalogue of the Recent Sea-Urchins (*Echinoidea*) in the Collection of the British Museum," 1925, p. 167, H. L. Clark again accepts "*minutus*" of Pallas [1774, 34] as the proper name of the species in question, stating: "I think that Pallas certainly named the small sea-urchins that he figured, *Echinus minutus*; this is clearly shown by the type in which the words are printed. That he used the accusative plural instead of the nominative singular is not important, for all through the fascicle he varied case and number of his scientific names to suit the sense. The omission of the name from the index is natural, as the index includes only the names used for headings of sections, paragraphs, etc., printed in big type, and *Echinus minutus* was not so used. Finally, if *Echinus minutus* is not the name of the objects shown in figs. 24 and 25 of Pallas's plate 1, then there is no name given at all, and this not only does violence to the context, but is unique in the fascicle.

"Mortensen goes on to say that even if Pallas did create the name *Echinus minutus*, it should be used for the *Fibularia* that Pallas also figures under his 'Echinos minutos.' But again Dr. Mortensen's reasoning seems to me erroneous. Pallas included at least two species in his *Echinus minutus*, but Gmelin (1788, Syst. Nat. Linn., Ed. 13, p. 3194) very clearly restricted the name to the form common on the coast of Belgium."

While it must be conceded that Gmelin did restrict the name *Echinus minutus* to the form common on the coast of Belgium (= the only European species of the genus *Echinocyamus*), it still seems clear to me that Pallas did not mean to name any species *Echinus minutus*. True he gives some names in the accusative singular—but these are definitely designated as names, viz., p. 33, "Buccinum quod Geuersianum appellabo" and "quod Helicem Lyonetianum . . . appellare liceat," and they are found in the Index. But he does not thus designate his "Echinos minutos" as a name, and it is not found in the Index as are all the true names in his work.

¹ Linnaeus, Systema Naturae, Ed. 13, cura Gmelin, 1788, p. 3194. [Definitely admits and cites "*Echinus minutus*" as a species.]

² H. de Blainville, Manuel d'Actinologie, 1834, p. 214. [Follows Gmelin.]

Other names with certainty referring to the same European species are: *Echinus pulvinulus* Pennant (British Zoology, 1812 [1, 140]) (not in the 1. Ed., 1777). *Fibularia tarentina* Lamarek, 1816 [b, 17], *Echinocyamus minimus* Girard, Proc. Bost. Soc. N. H., 1850, [367.] *Echinocyamus parthenopaues* Costa and *Echinocyamus speciosus* Costa (Monogr. degli Echinociami viventi e fossili nelle Province Napolitane, Mem. Atti r. Accad. Sci. Fis. e Matem. Napoli III, [14.] 1869). None of these, of course, comes into consideration; neither can the name *angulosus* of Leske be used, as this is later than the name *pusillus*. The question reduces itself to this: Must the species be named *pusillus*, the name under which the species is first duly described and—excellently—figured, and under which the species has been universally known for more than half a century, or should we reject this name for *minutus* of Pallas, almost certainly not meant by this author as a name, very poorly described, exceedingly poorly figured, and only from the locality given recognizable as referring partly to the European species of *Echinocyamus*?

DISCUSSION.—The Secretary has verified the reference to Pallas, 1774, which is the most important reference involved in this case. He has also reverified certain of the other references which form important premises. The article by Pallas is written in Latin and, as frequently happens in such circumstances, a confusion can easily arise by interpreting as binomials a purely descriptive combination of words consisting of a noun and an adjective or by interpreting a binomial as descriptive rather than as a taxonomic name. A case in point is Pallas, 1772, fasc. 9, page 83; "*Cancrum caninum*" is obviously a translation of Hondskrabbe, but it might easily be erroneously interpreted as a specific binominal used possibly in some earlier publication.

The fact that "*Echinos minutos*" is printed in the plural does not seem to be decisive as respects the point at issue, for on page 35 *Botryllus stellatus* (in singular) is given also as "*Botrylli stellati*" (in plural).

ECHINOS is printed in small caps while *minutos* is given in italics. This does not appear to give a definite clue; on page 33 the same editorial method is used for BUCCINUM (small caps) and *monodon* (italics) which is apparently a specific name and is given in the Index.

In the interpretation by the Secretary the case at hand is one in which there can be a legitimate difference of opinion, and in regard to which either of the proposed interpretations appears reasonable. The omission of the name from the Index might easily be a purely editorial oversight. While inclining to the interpretation advanced by Mortensen, the Secretary would not be willing to argue very strongly against that advanced by Clark. Under the circumstances three courses appear to be open: (1) to decide the case by majority vote based upon rather fine distinctions and from the Secretary's point

of view interpretations which are debatable; (2) to follow historical method and to accept on the principle of priority the interpretation made by the first author who quotes this passage; (3) to decide the case on basis of a general principle that in case of doubt it is best to accept the interpretation which will upset as little as possible current nomenclature.

The Secretary recommends that the Commission give as its Opinion one in harmony with this third method as applied to this particular case. On basis of the premises presented to the Commission the Opinion would fall in favor of *pusillus*.

Accordingly, the Secretary recommends that the Commission adopt as its Opinion the following:

SUMMARY.—The case of *Echinocyamus pusillus* vs. *Echinocyamus minutus* is subject to two diametrically opposed interpretations. On basis of the principle that a name in current use is not to be supplanted by an earlier but rarely adopted or an unadopted name unless the argument is unambiguous and unless the premises are not subject to difference of opinion, the Commission, because of the somewhat uncertain status of *minutus*, is of the Opinion that *pusillus* 1776 should not be suppressed by *minutus* 1774.

The foregoing Opinion was submitted to Commissioner Bather for a special study and he has reported as follows:

The question put by Dr. Mortensen may be resolved into (A) a question of interpretation and (B) a question of expediency.

A. Interpretation of the phrase "ECHINOS *minutos*." Two interpretations are possible.

1. That Pallas intended to establish a specific name "*Echinus minutus*."
2. That Pallas was merely referring to some "small echini," which he did not name.

Interpretation 1. The arguments in favor of this are:

- a. That the words are printed in small capitals for ECHINOS and italics for *minutos*.
- b. That if this be not a name, then the objects depicted in Pallas, plate I, figs. 24, 25, are the only objects in the fascicle left without a name.
- c. That Gmelin, 1788, Syst. Nat. Linn., Ed. 13, p. 3194, definitely accepts *Echinus minutus* as a species, citing Pallas (loc. cit.) [N. B. The date of Gmelin tom. et pag. cit. is 1790].

- d. That de Blainville, 1834, Manuel d'Actinol., p. 214, follows Gmelin. [Referring to a wrong page (86): strictly speaking he merely quotes Gmelin as well as Müller, Zool. Dan.; the name de Blainville uses is *Echinocyame mignon*.]

Interpretation 2. The arguments in favor of this are:

- a. All species indubitably named are indexed at the end of the fascicle—*E. minutus* is not.
- b. When Pallas does name a species, he leaves no room for doubt, but introduces the name by some such phrase as "quod . . . appellabo."
- c. Gmelin may have made a mistake, and except for de Blainville (who does not give a correct page) the general opinion of zoologists has been that he did so.

Comments on the above arguments:

1. a. There is considerable variety of type used in this Chapter. Other names of genera under which new species are proposed are in full capitals. Italics are used frequently for emphasis or distinction, as in this very paragraph.
1. b. This argument seems to be cancelled by 2. a. But it does not seem to be a good argument in itself, for Pallas is clearly, as he states, throwing these two little specimens in at the last moment, squeezing them in at the bottom of a plate, out of order, and jotting down what he calls a "verbulo."
1. c. Gmelin takes *minutos*, but Sherborn (Index Anim.) who put in every name he could, and who had Gmelin's reference does not cite Pallas as the authority. Sherborn aside, this argument seems balanced by 2. c.

This leaves only argument 2. b. and that certainly is in itself more weighty than any of the others.

It may be added that the word *minutus* is used twice again on the same page merely to signify small: "Zoophyta quaedam minuta" is the very next sentence. Surely Pallas would not have taken so banal a word for a specific name.

Additional argument in favor of Interpretation 2: Both Mortensen and Clark point out that the specimens figured by Pallas represent two species, but they do not draw the obvious inference. The words of Pallas show that he was aware of this fact; and part of his "verbulo" is taken up with showing the difference of form, and by the word "autem" he emphasizes also the difference of locality. Had Pallas been going to give a name at all he would have named both.

On the question of interpretation, it seems that the arguments against "*Echinos minutus*" being a name, if not absolutely decisive, are more numerous and more weighty.

B. Expediency.

1. In favor of adopting *E. minutus*, the argument is:
 - a. That it has been used by Dr. H. L. Clark in his larger Memoir on Hawaiian Echini (Mem. Mus. Harvard) and in a British Museum Catalogue.
2. Against *E. minutus* the argument is:
 - a. The otherwise universal usage of zoologists since O. F. Müller, 1776.
 - b. The other historical data submitted are irrelevant.

COMMENT AND CONCLUSION

There is no room for doubt that, if the question is to be decided on grounds of expediency by Suspension of the Rules, the vote should go in favor of *pusillus*. I therefore beg to report in favor of the third course recommended by the Secretary.

Opinion prepared by Bather and Stiles.

Opinion concurred in by fifteen (15) Commissioners: Apstein, Bather, Chapman, Handlirsch, Hartert, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Stejneger, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, two (2) Commissioners: Dabbene, Neveu-Lemaire.

OPINION 108

SUSPENSION OF RULES FOR *Gazella* 1816

SUMMARY.—Under Suspension of the Rules *Gazella* Blainville, 1816, type species *Capra dorcas* Linn., 1758a, is adopted in preference to *Oryx*, and is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—See Opinion 90, p. 36.

DISCUSSION.—The vote taken on Opinion 90 stood sixteen (16) in favor of Suspension of the Rules and adoption of *Gazella*, and two (2) against this action.

In accordance with the provisions governing Suspension of the Rules, this case was referred to a Special Committee consisting of Commissioner Loenbergh representing the affirmative, Commissioner Dabbene the negative, and Ex-Commissioner H. F. Osborn as third member of the Committee.

The votes of the Committee have reached the Secretary; all three (3) votes are in the affirmative, a unanimous vote has been obtained, Suspension is therefore authorized, and *Gazella* is to be recognized in preference to *Oryx*.

The Commission has instructed the Secretary to announce the result, and by a vote of thirteen (13) to one (1) *Gazella* Blainville, 1816, type *Capra dorcas* Linn., is hereby placed in the Official List of Generic Names.

OPINION 109

SUSPENSION OF RULES FOR *Hippotragus* 1846

SUMMARY.—Under Suspension of the Rules (if need be), *Hippotragus* Sundevall, 1846, type species *Antilope leucophaea* Pallas, 1766, is adopted in preference to *Egocerus* Desmarest, 1822, and *Ozanna* Reichenbach, 1845, (not *Aegoceros* Pallas, 1811) and is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—See Opinion 90, p. 36.

DISCUSSION.—The vote taken on Opinion 90 stood fourteen (14) in favor of Suspension of the Rules and adoption of *Hippotragus*, and four (4) against this action.

In accordance with the provisions governing Suspension of the Rules, this case was referred to a Special Committee consisting of Commissioner D. S. Jordan representing the negative, Commissioner Loennberg the affirmative, and Ex-Commissioner H. F. Osborn as third member of the Committee.

The votes of the Committee have reached the Secretary; two (2) of them are in favor of Suspension of the Rules if necessary to validate *Hippotragus*; the third vote upholds *Egocerus*, but this last vote is accompanied by a statement that if this vote is the only negative vote, the member of the Committee is willing to change his vote to make it unanimous.

A majority and subsequently a unanimous vote having been obtained in this case, *Hippotragus* is to be recognized in preference to either *Egocerus* or *Ozanna*.

The Commission has instructed the Secretary to announce the result, and by a vote of thirteen (13) to one (1) *Hippotragus* Sundevall, 1846, type *Antilope leucophaea* Pallas, 1766, is hereby placed in the Official List of Generic Names.

OPINION 110

SUSPENSION OF RULES FOR *Lagidium* 1833

SUMMARY.—Under Suspension of the Rules *Lagidium* Meyen, 1833, type species *Lagidium peruanum* Meyen, is adopted in preference to *Viscaccia* Oken, 1816, genotype "*Lepus chilensis* Molina," and is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—See Opinion 90, p. 36.

DISCUSSION.—The vote taken on Opinion 90 stood sixteen (16) in favor of Suspension of the Rules and adoption of *Lagidium*, and two (2) against this action.

In accordance with the provisions governing Suspension of the Rules, this case was referred to a Special Committee consisting of Commissioner Apstein representing the affirmative, Commissioner Dabbene the negative, and Ex-Commissioner H. F. Osborn as third member of the Committee.

The votes of the Committee have reached the Secretary; all three (3) votes are in the affirmative, a unanimous vote has been obtained, Suspension is therefore authorized, and *Lagidium* is to be recognized in preference to *Viscaccia*.

The Commission has instructed the Secretary to announce the result, and by a vote of thirteen (13) to one (1) *Lagidium* Meyen, 1833, type *Lagidium peruanum* Meyen, is hereby placed in the Official List of Generic Names.

OPINION 111

SUSPENSION OF RULES FOR *Nycteris* 1795

SUMMARY.—Under Suspension of the Rules *Nycteris* Cuvier & Geoffroy, 1795, type species *Vespertilio hispidus* Schreber, 1774, is adopted in preference to *Petalia* Gray, 1838, genotype *Nycteris javanica* Geoffroy, and is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—See Opinion 90, p. 36.

DISCUSSION.—The vote taken on Opinion 90 stood sixteen (16) in favor of Suspension of the Rules and adoption of *Nycteris*, and two (2) against this action.

In accordance with the provisions governing Suspension of the Rules, this case was referred to a Special Committee consisting of Commissioner Hartert representing the affirmative, Commissioner Dabbene the negative, and Ex-Commissioner H. F. Osborn as third member of the Committee.

The votes of the Committee have reached the Secretary; all three (3) votes are in the affirmative, a unanimous vote has been obtained, Suspension is therefore authorized, and *Nycteris* is to be recognized in preference to *Petalia*.

The Commission has instructed the Secretary to announce the result, and by a vote of thirteen (13) to one (1) *Nycteris* Cuvier & Geoffroy, 1795, type species *Vespertilio hispidus* Schreber, is hereby placed in the Official List of Generic Names.

OPINION 112

SUSPENSION DECLINED FOR *Manatus* 1772 vs. *Trichechus* 1758

SUMMARY.—Suspension of the Rules is declined for *Manatus* Brünnich, 1772, type species *Trichechus manatus* Linn., 1758a, type locality West Indies, vs. *Trichechus* Linn., 1758a, monotype *T. manatus*; accordingly, the name *Trichechus* is to be used for the manatee instead of for the walrus. *Trichechus* Linn., 1758a, type *T. manatus* is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—See Opinion 90, p. 36.

DISCUSSION.—The vote taken on Opinion 90 stood thirteen (13) in favor of Suspension of the Rules and adoption of *Manatus*, and five (5) against this action.

In accordance with the provisions governing Suspension of the Rules, this case was referred to a Special Committee consisting of Commissioner K. Jordan representing the affirmative, Commissioner Stejneger the negative, and Ex-Commissioner Osborn as third member of the Committee.

The votes of the Committee have reached the Secretary; two (2) of them uphold *Trichechus*, the third vote is in favor of Suspension of the Rules to validate *Manatus*. A majority vote has been obtained, Suspension is declined, and *Trichechus* is to be recognized in preference to *Manatus*.

The Commission has instructed the Secretary to announce the result, and by a vote of thirteen (13) to one (1) *Trichechus* Linn., 1758a, type *T. manatus*, is hereby placed in the Official List of Generic Names.

OPINION 113

Sarcoptes LATREILLE, 1802, TYPE *scabiei*, PLACED IN
OFFICIAL LIST

SUMMARY.—*Sarcoptes* Latreille dates from 1802 instead of 1804 or 1806 as frequently quoted. It was originally monotypic, containing only *Acarus scabiei*. The 1810 type designation of *Acarus passerinus* is invalid under Article 30c and 30ea. The acceptance of *Acarus scabiei* as type species of *Acarus* is invalidated by Article 30g, according to which *Acarus siro* (syn. *farinae*) is the type of *Acarus*. *Sarcoptes* Latr., 1802, mt. *scabiei* is hereby placed in the Official List of Generic Names.

PRESENTATION OF CASE.—This case has been presented to the Commission in correspondence and verbally by several persons. The documents are too extensive to be reprinted here in full but they may be summarized briefly as follows:

A. Oudemans maintains that the pre-Linnaean history of the generic name *Acarus* and of the specific name *siro* clearly shows that these two names were used for the itch mite of man. In a very learned discussion he traces this use of the word *Acarus* to the following dates:

1557, 1567, 1577, 1622, 1630, 1634, 1641, 1650, 1657, 1658, 1660, 1663, 1664, 1667, 1671, 1675, 1676, 1677, 1680, 1686, 1689, 1691, 1692, 1696, 1699, 1700, 1703, 1708, 1722, 1724, 1733, 1735, 1739, 1740, 1756;

and this use of the word *siro* to the following dates:

1513, 1516, 1570, 1602, 1607, 1608, 1619, 1631, 1641, 1650, 1652, 1656, 1660, 1661, 1670, 1676, 1679, 1680, 1682, 1686, 1687, 1689, 1691, 1695, 1697, 1699, 1701, 1703, 1708, 1709, 1716, 1717, 1719, 1722, 1723, 1724, 1729, 1731, 1733, 1735, 1736, 1740, 1741, 1751, 1753, 1754, 1756.

Oudemans' position is that Linnaeus chose the generic name *Acarus* because this had become classic and that the species present to his mind was the itch mite; further that *Acarus siro* permitted him to avoid tautonymy, and to his mind *Acarus siro* was consequently and basically the itch mite, and this species, therefore, he (Oudemans) definitely takes as type species of *Acarus*.

B. Vitzthum (1927, Zool. Anz., v. 72 (3-4), June 20, pp. 115-126) reviews the literature from 1758 to 1927 and arguing on basis of the International Rules he concludes that *Acarus siro* in the sense of the itch mite is the type species of *Acarus* and that *Acarus passerinus* is the type species of *Sarcoptes*.

C. Several authors date *Sarcoptes* as 1804 or 1806; if this date be accepted the designation of *passerinus* as type species of *Sarcoptes* by Latreille, 1810a, p. 425, is valid, and will result in a considerable amount of confusion in nomenclature of generic, subfamily, and family names in zoology, and in considerable confusion in terminology in human and veterinary medicine and pathology. Under this premise the question of a Suspension of Rules comes up for consideration.

D. Some authors point out that the earliest publication of the generic name *Sarcoptes* was by Latreille, 1802, and that at this date the name was monotypic, since only *Acarus scabiei* was mentioned in connection with it.

The Commission is requested to review the premises and to render an Opinion.

DISCUSSION.—This case is, in some respects, much more complicated than at first it appears. To understand it, one must start with Linnaeus, 1758a. The case involves the names *Acarus* 1758, *Siro* 1759, 1795, 1796, 1802, *Sarcoptes* 1802, *Glyciphagus* 1838, *Eusarcoptes* 1888, and *Analges* 1818.

Linnaeus, 1758a, 615-618, used *Acarus* as generic name for 31 species; of these, the following are of special importance in this case:

No. 10. *A. passerinus*. Habitat in *Passeribus* variis.

No. 15. *A. siro*, which he divided under two headings in quoting earlier literature, namely, *farinae* and *scabiei*. "Habitat in Farina Europae, Americae. Inter *Sirones farinae*, *scabiei*, *dysenteriae*, *hemitritae*, non reperi alias differentias, quam a loco petitas. Amoen. acad. 3. p. 333."

No. 16. *A. exulcerans*. Habitat in Scabie ferina.

According to the Linnaean rule, Article 30h, the following most common and medicinal species come into special consideration as possible genotype:

2. *A. aegyptius*; tsd. of *Hyalomma* 1844;

3. *A. reduvius*; syn. of (6) *ricinus*;

4. *A. americanus*; now in *Amblyomma* 1844;

6. *A. ricinus*; tsd. (1810) of *Ixodes* 1796;

15. *A. siro*; later restricted to *farinae* by Latreille;

farinae; habitat in Farina, Europe (tpd.) and America;

scabiei; on *Homo*, type host, Europe (tpd.); mt. of *Sarcoptes* 1802; tsd. of *Acarus* by Oudemans;

16. *A. exulcerans*; habitat in Scabie ferina.

Of these 6 Linnaean species, *A. siro* in the sense of *scabiei* could best have been chosen as type.

Kniphof (1759, De Pediculus inguinalibus insectis et vermibus homini molestis, pp. 20-26) cites § XXI *Acarus*, with a number of subheadings "Acari capitis," "Acari scabiei," etc., which Sherborn (1902a Index) does not cite as specific combinations as of 1759. and the Secretary inclines to agree with him. On page 20, Kniphof cites "*Cyro*, *Siro*," and on p. 52, he cites "*Sirones*." Sherborn (1902a, 909) accepts *Siro* from p. 52, as of generic status but the reason is not clear to the Secretary, and on this account he (the Secretary) accepts this *Siro* as dating from Sherborn, 1902a, 909, instead of from Kniphof, 1759, 52. Linné (1758a, 617) also cited *Sirones* but apparently not as a generic name.

Latreille, 1795 (Mag. encycl., v. 4, p. 7) and 1796a (Précis) published two papers in which he cited single species as examples for various acarine genera, and these examples are interpreted by some authors as definite designations of type species for the genera in question.

For the generic names which are new in these two papers this interpretation is undoubtedly correct, for these particular genera are monotypic by original publication. But for those generic names which are old—namely, published prior to these two papers—citation of the species is not made in such a way that they can be interpreted as types under the following provision of Article 30g: “The meaning of the expression ‘select the type’ is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type.” Accordingly, for the older genera these citations are to be interpreted as examples, not as type species. With this conclusion in mind some of the existing confusion can be cleared.

Sarcoptes Latreille, 1802b, Hist. nat. d’Ins., v. 3, 67, was first published as monotypic, namely mt. *Acarus scabiei*. Article 30c.

In the same publication Latreille (1802b) cites (p. 64) *Acarus* example *A. siro* syn. *Tyroglyphus* 1796, mt. *Acarus siro* and (p. 62) *Siro* Latreille, 1795, 19, with *Siro rubens* Latreille; as *rubens* is the first and only species mentioned with the generic name *Siro* it becomes automatically the type of *Siro*. See Art. 30g and Opinion 46.

This publication of 1802 definitely fixes the type species of *Sarcoptes*.

The type species of *Acarus* was first definitely designated by Latreille, 1810a, p. 425, when he cited as type *Acarus siro* from which *scabiei* was eliminated, thus leaving *siro* in the sense of *farinac*.

The question at issue can be closed with the works of Latreille, 1802 and 1810, but for a clearer understanding of the various complications which have arisen the following table of historical data is given herewith.

Acarus Linn., 1758a, 344, 615, with 31 species, including *siro* (with 2 varieties, *farinac* [tsd.] and *scabiei* [eliminated]). [Objective syn. *Tyroglyphus* Latr., 1802, mt. *siro* (i. e., *farinac*).]

1795: *Acarus coleoptratus* Linn., 1758a, 616, no. 13, cited as example (not as type) by Latreille, 1795, Mag. encycl., v. 4, 19. [Cf. *Notaspis* Herm., 1804]. Some authors have construed this as type designation.

1796: *Acarus geniculatus* Linn., 1758a, 617, no. 17, cited as example (not as type) by Latreille, 1796a, 184. Some authors have construed this as type designation.

[1796: *siro* [not *scabiei*] mt. of *Tyroglyphus* by Latreille, 1796a, 185.]

- 1802: *Acarus siro* Linn., 1758a, p. 616, no. 15, cited as example (not as type) by Latreille, 1802b, 64, with *Tyroglyphus* 1796 as syn. In 1796 this was mt. of *Tyroglyphus* [cf. *farinae* 1758]; *scabiei* eliminated to *Sarcoptes* as mt. Some authors have construed this as type designation.
- 1810: *Acarus siro* Fabr. definitely designated type by Latreille, 1810a, 425. [The variety *scabiei* had been eliminated to *Sarcoptes*, leaving *farinae* as type of *siro*.]
- 1826: *Acarus siro* [not including *scabiei*] Linn., definitely designated type by Heyden, 1826, 151, 611.
- 1834: *Acarus domesticus* de Geer, 1778, definite but erroneous designation by Dugès, 1834. Not an original (1758) species, hence pseudotype, etc. Cf. *Glyciphagus*.
- 1877: *Acarus domesticus* cited as 1st species (not as definite type designation) by Canestrini and Fanzago, 1877, 196, Atti r. Inst. Ven. Sci. Lett. Art., v. 4.
- 1926: 1st. *Acarus siro* (= *scabiei*) definitely designated type by Oudemans, in various articles and letters.
- 1927: type *siro* 1758 (syn. *scabiei*) by Vitzthum, 1927, Zool. Anz., v. 72, 115-126.

Thus, under the Rules, *Acarus* supplants *Tyroglyphus*, unless the Rules be suspended by suppressing *Acarus* entirely on utilitarian grounds.

Sarcoptes Latr., 1802b, 67, mt. *scabiei*.

1802: *Acarus scabiei* Linn., 1758a, 616, no. 15 var., only species cited for *Sarcoptes*.

[1808: *nidulans* classified by Nitzsch, 1808, E. and G. Encycl., v. 1, p. 251, as a *Sarcoptes*.]

1810: etd. *passerinus* Linn., 1758a, 616, no. 10 (not an original, 1802, species), definitely designated type by Latr., 1810a, 425. [Transferred to *Analges* by Nitzsch, 1818.]

1826: etd. *nidulans* Nitzsch (not an original, 1802, species) definitely designated type by Heyden, 1826, 611.

1861: emended to *Sarcoptes* Moq.-Tand., 1861a, 307.

1888: subg. *Eusarcoptes* Rail., 1888, 1st. (1927) *scabiei* by Stiles and Hassall, 1927, 263.

1892: emended to *Sarcoptes* Anacker, 1892b, 61.

—: emended to *Sarcoptes* by various German authors.

1903: *siro* assumed to be type by absolute tautonymy of *Siro* Latr., 1795, by Michael, 1903, 102, and syn. of *scabiei*. See, however, *Siro rubens* in Latr., 1802b.

1915: *scabiei* accepted as type by Apstein, 1915a.

1927: *scabiei* accepted as mt. of *Sarcoptes* by Stiles and Hassall, 1927, p. 263.

1927: *passerinus* accepted as type by Vitzthum, 1927, Zool. Anz., v. 72, 125.

In view of the foregoing data the Secretary recommends that the Commission adopt as its Opinion the following:

Sarcoptes Latreille dates from 1802 instead of 1804 or 1806 as frequently quoted. It was originally monotypic, containing only *Acarus scabiei*. The 1810 type designation of *Acarus passerinus* is invalid under Article 30c and 30ea. The acceptance of *Acarus scabiei*

as type species of *Acarus* is invalidated by Article 30g according to which *Acarus siro* (syn. *farinae*) is the type of *Acarus*.

Sarcoptes Latr., 1802, mt. *scabiei* is hereby placed in the Official List of Generic Names.

Opinion prepared by Stiles.

Opinion concurred in by fifteen (15) Commissioners: Apstein, Bather, Dabbene, Chapman, Handlirsch, Hartert, Horvath, Ishikawa, Jordan (D. S.), Jordan (K), Kolbe, Stejneger, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, two (2) Commissioners: Loennberg, Neveu-Lemaire.

OPINION 114

UNDER SUSPENSION *Simia*, *Simia satyrus* AND *Pithecus*
ARE SUPPRESSED

SUMMARY.—Under Suspension of the Rules the names *Simia*, *Simia satyrus*, and *Pithecus* are hereby suppressed on the ground that their retention under the Rules will produce greater confusion than uniformity.

STATEMENT OF CASE.—See Opinion 90, p. 38; and The Nomenclature for Man, the Chimpanzee, the Orang-Utan, and the Barbary Ape < Bul. 145, Hyg. Lab., U. S. Pub. Health Service, Wash., 1927, pp. 1-66, figs. 1-16.

DISCUSSION.—The vote taken on Opinion 90 stood ten (10) in favor of, and eight (8) against, suspending the Rules in order to validate *Simia*, type *S. satyrus*, for the Orang-Utan; and nine (9) to nine (9) on the proposition to suspend the Rules in order to validate *Anthropopithecus* Blainville, 1838, type *Simia troglodytes* Gmelin, 1788, for the chimpanzee. According to the premises of the proposals which failed of acceptance, the specific name *satyrus* Linn., 1758, would have to be applied to the chimpanzee, while the application of *Simia* remained in doubt; according to the appellants, *Simia* would supplant *Macaca* (type *sylvanus*), but according to some authors *Simia* would become the generic name of the chimpanzee in place of *Pan*.

The complicated nomenclatorial situation was studied in considerable detail by Stiles and Orleman (1927) who invited attention to the potential danger which might arise in medical and public health work because of continued confusion, and they expressed the view that the nomenclatorial situation in regard to *Simia*, *S. satyrus*, and *Pithecus*, was so hopeless that the most practical solution of the problem was to be found in a total suppression of these three names. The data shown in the bulletin (no. 145) are made part of the premises of this Opinion 114.

On motion, the Commission voted (12 to 2) to reopen the case of *Simia* in order to examine the detailed facts to be presented.

At the Budapest (1926) meeting of the Commission, Commissioner Apstein was appointed a committee of one to consider the case and to report his recommendations to the Commission. His report was discussed at length by the Commission which unanimously adopted two resolutions, namely:

(1) That the names *Simia*, *S. satyrus*, and *Pithecius*, be entirely suppressed under Suspension of the Rules; and

(2) That except as already provided in the foregoing (1st resolution), the Law of Priority be enforced.

Voting in favor of these two resolutions were: Apstein, Bather, Hartert, Jordan (K.), Muesebeck, Stejneger, and Stiles.

Voting negatively, none.

Not voting, Howard, and all absent Commissioners.

The resolutions in question were reported to the absent Commissioners in Circular Letter No. 128, and affirmative votes were received from Commissioners Horvath, Jordan (D. S.), and Stone; no negative vote was received; thus the final vote is ten (10) to none (0).

The vote returned by Commissioner Loennberg referred to the original Opinion 90, not to the motion before the Commission.

No vote on the resolutions has been returned by nine (9) Commissioners who had an opportunity to vote: Chapman, Dabbene, Handlirsch, Ishikawa, Kolbe, Loennberg, Monticelli (deceased), Neveu-Lemaire, Warren.

Circular Letter No. 128 was held open fourteen (14) months for vote, and was finally closed February 12, 1929.

SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 73, NUMBER 7

OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 115 TO 123



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OPINION 115

STATUS OF *Leucochilus*

SUMMARY.—The Commission herewith suppresses *Leucochilus* von Martens, 1881, in favor of *Leucochila* von Martens, 1860, type *Pupa fallax* Say. Any other course would involve risk of lasting and constant confusion in two rather closely allied genera.

STATEMENT OF CASE.—Dr. H. A. Pilsbry, of the Academy of Natural Sciences of Philadelphia, has presented the following case for opinion:

Leucochila was proposed by von Martens (Die Heliceen, 1860, p. 296, "Typus *Pupa fallax* Say") for two series of species (now ranked as two genera): *a*, which we may call the series of *Pupa fallax*, and *b*, that of *Pupa armifera*.

In 1881 (in von Martens' Conchologische Mittheilungen, p. 64) Dr. O. Boettger proposed to relegate the group of *Pupa fallax* to the prior genus *Buliminus*, and to retain the name *Leucochilus* for the relationship of *Pupa armifera*. At the same time, he cited *Leucochila* von Martens as equivalent to *Leucochilus*, as in the appended facsimile:

"II. Sect. *Leucochilus* m.

"= *Leucochila* Albers-Martens, Heliceen II. Ausg. 1860, S. 296.

"Indem ich die ungezähnten Arten der Gruppe der *P. fallax* Say aus vorbenannter Section ausscheide und sie als Section zur Gattung *Buliminus* Ehrenb. verweise, halte ich die Benennung *Leucochilus* nur für die meist bleichgefärbten, stark bezahnten, mit kräftiger, geschwungener, häufig zweitheiliger Parietal-lamelle versehenen Formen der Verwandtschaft der *P. armifera* Say aufrecht."

Q.—Can *Leucochilus* stand for the *Pupa armifera* group? Or is it synonym of *Leucochila*? Or to be rejected as homonym of the prior *Leucochila*?

Observations.—Usage is divided. Several German authors have used *Leucochilus* in the sense of Boettger. All recent American authors who have dealt with the group have apparently thought that name unavailable, having used the later name *Bifidaria* Sterki for the group containing *Pupa armifera*.

No type species has been designated for *Leucochilus* except as implied in the above extract.

The name *Bifidaria*, for the same group, was properly defined and supplied with a type. As the group is chiefly American, and does not occur in the European fauna, no name for it can be said to be generally accepted in Europe, nearly all authors mentioning the species using von Martens' nomenclature of 1860.

DISCUSSION.—The foregoing case includes two distinct questions. First, is *Leucochilus*, 1881, an objective synonym of *Leucochila*, 1860? And second, is *Leucochilus*, 1881, a homonym of *Leucochila*, 1860?

First.—According to the premises, *Leucochila*, 1860, has *Pupa fallax* as type by original designation and this type designation settles for all time the type of *Leucochila*.¹

In 1881 *Leucochilus* is essentially a new generic name, and as *Pupa fallax* is expressly excluded by Boettger from membership in *Leucochilus*, it is clear that *Leucochilus* cannot have *fallax* as its type, and therefore that it is not an objective synonym of *Leucochila*.

For *Leucochilus*, 1881, only one species was mentioned in the original publication, namely, *Pupa armifera* Say, and this is therefore type of *Leucochilus* by monotypy..

If *fallax* and *armifera* are united in one genus, *Leucochilus*, 1881, becomes a subjective synonym of *Leucochila*, 1860.

Accordingly, the first question is to be answered as follows: *Leucochilus*, 1881, is theoretically excluded from being an objective synonym of *Leucochila*, 1860, but theoretically it might be a subjective synonym.

Second.—The second question, whether the existence of *Leucochila* precludes the use of *Leucochilus*, represents one of a series of cases which the Commission has discussed for more than 25 years, but upon which the Commission has never been able to reach a satisfactory agreement involving an Opinion that can be applied to all cases. The best the Commission has ever been able to do is expressed in the recommendation of Article 36, which reads as follows:

It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced, such names are not to be rejected on this account. Examples: *Picus*, *Pica*; *Polyodus*, *Polyodon*, *Polyodonta*, *Polyodontas*, *Polyodontus*.

In this unsatisfactory status of the results, all the Commission can expect to do is to build up a series of Opinions on special cases in the hope that these Opinions can some day be formulated into a principle. On one occasion a special subcommittee studied the question at issue and reported as follows:

The Committee is of the opinion that the use of a word as a generic name in one gender does not necessarily preclude its use in a different gender for another genus, but it considers such use eminently undesirable.

¹ *Leucochila* Albers in Von Martens, 1860, 296, tod. *Pupa fallax* Say—

a—for *fallax*, *modica*, *chordata*, *pacifica*.

b—*pellucida*, *riisci*, *corticaria*, *ripicola*, *contracta*, *armifera*.

In the case now before the Commission, it would appear from the premises that *Leucochila* and *Leucochilus* represent very closely allied groups. So closely allied, in fact, that the possible concurrent use of the two names might lead to serious confusion if both names were to become valid. If these two names belonged in widely different groups, for instance, in mammals and sponges, the chances for confusion would be very much reduced and another point of view might, perhaps, be entirely justified. The case represents, in fact, one very similar to *Endamocba* and *Eutamocba* and on practical grounds it is in the interest of clarity that *Leucochilus* be definitely suppressed.

Accordingly, the Secretary recommends that the Commission adopt as its Opinion the following:

1. *Leucochilus*, 1881, is theoretically excluded from being an objective synonym of *Leucochila*, 1860, but it might be, theoretically a subjective synonym; and

2. For the purpose of this Opinion, and on practical grounds (in order to prevent confusion), the Commission herewith considers *Leucochilus*, 1881, a homonym of *Leucochila*, 1860, and therefore not entitled to stand.

Opinion written by the Secretary.

The foregoing draft of Opinion was forwarded to B. B. Woodward of London, England, with request that he give the Commission the benefit of his views. He replied as follows:

Leucochilus and *Leucochila* are absolute homonyms. They are merely the masculine and feminine forms of one and the same name.

It is too generally overlooked that these inflections of gender were universally held by the early systematic zoologists to be such and not to qualify in any way for generic distinction. To alter this now would create an untold amount of disturbance in past nomenclature, which is quite unjustifiable and would be mischievous.

The framers of the original Rules were all good systematic zoologists as well as good scholars. They took this view so much as a matter of course that they did not think of specifying anything so obvious to them in their Rules. They never dreamt that a later school of enthusiastic but less well-informed naturalists (zoologically and classically) would arise to challenge it.

The Recommendation attached to Rule 36 does not really touch the present or similar cases, of which there are far too many for a piecemeal consideration of them to be profitably undertaken.

In my opinion the Commission would be best advised, taking advantage of the present instance, to lay down the principle that: "Names of genera differing only in their termination, when that is indicative solely of gender, cannot be employed for distinct genera, but must be considered to be homonyms." Occasion might be taken to point out that the frequently misquoted case of *Picus* and *Pica* does not apply here since these names are two distinct Latin substantives, not modern makeups and not merely variations in gender of one and the same word.

All papers were then forwarded to Commissioner Chapman for review and opinion. His report reads as follows:

Re *Leucochila* and *Leucochilus*, after examining the evidence for and against the use of *Leucochilus* Boettger, I have drawn the following conclusions:

1.—Since *Leucochilus* was suggested by Boettger as an equivalent term to *Leucochila* (but with emended spelling), of the section *P. armifera*, it is clearly a homonym of *Leucochila*.

2.—*Leucochilus* only differs in generic ending, and therefore it is inadvisable to retain it in such closely related groups where it would be a source of confusion.

3.—For the above reason that *Leucochilus* Boettger must be taken as a homonym, I would suggest the use of *Bifidaria* Sterki, as it has been properly defined and supplied with a type.

The papers were submitted also to Dr. Paul Bartsch, United States National Museum, who writes:

I have talked this matter over with Dr. Dall and we both agree with you.

With the foregoing data, the Secretary requested an informal ballot from the Commission. As basis for the vote the Secretary proposed the following summary:

Upon utilitarian grounds, regardless of all other considerations, the Commission hereby declares *Leucochilus*, 1881, as suppressed in favor of *Leucochila*, 1860; any other action would involve risk of lasting and constant confusion in two rather closely allied genera.

In Circular Letter No. 156, the Secretary reported as follows:

Eight (8) Commissioners (Chapman, Dabbene, Horvath, Neveu-Lemaire, Stiles, Stone, and Warren) accept the Opinion as written, without comment.

Three (3) Commissioners accept the general result of the Opinion, but comment as follows:

Hartert: Opinion concurred in "but NOT ON UTILITARIAN GROUNDS which is absolutely dangerous and objectionable! It is not in the conception of the 'Rules.'" [But cf. wording of suspension—C. W. S.]

Jordan (David Starr): "I vote with the affirmative on the view that the suspension of *Leucochilus* will avoid confusion. It is now on the basis that new names for new genera should not be formed by change of gender of old names. *Gasterosteia* Sauvage (not valid) was proposed for a section of *Gasterosteus*. But I shall vote that names differently spelled (except through carelessness) are different names until we have a definite decision. It is not, as Mr. Woodward writes, a matter of 'ignorance.' I am willing to take either view if properly defined and a majority agrees. In Ichthyology we have some 40 cases and an agreement is very desirable."

Jordan (Karl): "From the facts

(1) That Boettger says: 'ich halte die Benennung *Leucochilus* für . . . aufrecht' and

(2) That Boettger states *Leucochilus* = *Leucochila* Albers-Martens, it follows that Boettger did not propose a new name, but retained the old

name in an emended form. Such emendations were quite in vogue until recently. But an emended name is not a new name and is nomenclatorially identical with the name in its original spelling.

The question as to whether generic names differing in endings only should be treated as different does not arise here at all."

Commissioner Apstein writes: "*Leucochila* v. Martens und *Leucochilus* Boettger sind 2 verschiedene Namen und können deshalb neben einander bestehen." In reply to this note the Secretary wrote to Commissioner Apstein, "I interpret your vote as negative in the case of Circular Letter No. 131," to which Commissioner Apstein replied, "Ich stimme zu, *Leucochilus*, 1860." The Secretary is not yet clear in regard to Commissioner Apstein's vote but he interprets it again as permitting *Leucochilus*, 1881, and *Leucochila*, 1860, to exist together under the conditions mentioned in Circular Letter No. 131.

As eight (8) Commissioners agreed without reservation, as one Commissioner objected simply to the expression "upon utilitarian grounds," and as two other Commissioners agreed as to the end result, the Secretary suggested that the summary be amended as follows:

Alternative A.—SUMMARY: The Commission herewith suppresses *Leucochilus*, 1881, in favor of *Leucochila*, 1860; any other action would involve risk of lasting and constant confusion in two rather closely allied genera.

The foregoing summary would seem to meet the objection offered by Commissioner Hartert, and would also meet the viewpoint of Commissioner Karl Jordan, while it would at the same time give the result desired by all of the other Commissioners who voted in the affirmative. In case the Secretary has misinterpreted Commissioner Apstein's position, this summary would appear to meet his views also.

An alternative to the foregoing summary might read as follows:

Alternative B.—SUMMARY: *Leucochilus*, 1881, can be interpreted as an emendation of *Leucochila*, 1860; Boettger, 1881, inadvertently fell into error when he eliminated the type species *fallax*, from *Leucochila*.

The Secretary is prepared to change his vote to conform to this second summary in case a majority of the Commission prefers this to Alternative A. Under these circumstances he would rewrite and resubmit the Opinion.

Opinion prepared by Stiles.

Alternative A was approved by a vote of 13 to 1 as follows:

For Alternative A, thirteen (13) Commissioners: Apstein, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Silvestri, Stiles, Stone, Warren.

For Alternative B, one (1) Commissioner: Bather.

Not voting, four (4) Commissioners: Kolbe, Loennberg, Neveu-Lemaire, Stejneger.

OPINION 116

Bulinus SCOPOLI, 1777, vs. *Bulinus* MUELLER, 1781, vs.
Bulinus BRUGUIÈRE, 1792

SUMMARY.—The Commission does not interpret *Bulinus* Scopoli, 1777, as an obvious typographical error; the premises do not show that the genotype (which must be selected from the four originally included species) has been definitely and properly designated. *Bulinus* Mueller, 1781, has for its type *Bulinus senegalensis*, and is not invalidated by *Bulinus*, 1777. *Bulinus* Bruguière, 1792, type *haemastomus* seu *oblonga* is a dead homonym of *Bulinus*, 1777.

STATEMENT OF CASE.—Dr. H. A. Pilsbry, of Philadelphia, presents the following case for Opinion:

The questions the Commission is asked to decide are:

1. Can *Bulinus* Scopoli, 1777, be retained with its original orthography and restricted to one of the four Linnean species mentioned by Scopoli?
2. Will the use of *Bulinus* O. F. Mueller, 1781, be considered inadmissible on account of the prior *Bulinus*?¹
3. Can *B. senegalensis* O. F. Mueller, properly be considered type of *Bulinus* Mueller, thus preserving the traditional meaning of the term?

The name "Le Bulin, *Bulinus*" was introduced by Adanson in his *Histoire nat. du Sénégal, Coquillages*, 1757, p. 5, pl. 1. His work was pre-Linnean, but its nomenclature was in the main Linnean. He recognized genera and species, each denoted by single terms, but he did not use them in combination, and in the case of monotypic genera, such as *Bulinus*, *Coretus*, *Pedipes*, he did not name the species further, the generic term serving for both genus and species.

The first post-Linnean author to take up the matter was Scopoli, *Introductio ad Historiam Naturalium*, 1777, who on p. 392 introduces:

"64. *Bulinus*. Adans. Testa univalvis, non umbilicata; apertura ovali. Molluscum tentaculis binis, basi appendiculatis; puncto ophthalmoides distincto aut radicali Swammerdam. Tab. IX. Fig. 4.

"*Helix putris* Linn., 1758a, 774, *fragilis* Linn., 1758a, 774, *stagnalis* Linn., 1758a, 774, *tentaculata* Linn., 1758a, 774, nec non aliae non paucae terrestres Cl. Müllerii.

"*Pedipes* Adanson, diversus Testae apertura dentata."

The generic characters given apply well to the species he mentioned, which belong to three modern genera:

Helix putris to *Succinea*.

Helix fragilis and *stagnalis* to *Lymnaea*.

Helix tentaculata to *Bithynia*.

Scopoli did not refer to Adanson's species except so far as may be implied by adopting a modification of his name. [His differential diagnosis, as respects *Pedipes*, is in harmony with Adanson, 1757, pp. 6, 12.—C. W. S.]

¹ The names *Bulinus* and *Bulinus* have been in common use, without confusion, for about a century, for different genera of mollusks.

Scopoli subsequently used *Bulinus* for a land snail similar in general shape to the species he had formerly included, but afterward found to be generically distinct. The name *Bulinus* remained in universal use for this last group until quite recent times.

Dall, 1892, Trans. Wagner Free Inst. Sci., vol. 3 (2), pp. 334-335, thought that *Bulinus* would have to be restricted to *Helix tentaculata*, though he did not expressly name that as its type.

A similar view was taken by Pilsbry, 1895-96, Manual of Conchology (2nd ser.), vol. 10, p. 3, who wrote:

"As Scopoli quotes the name as of Adanson, it has been surmised that '*Bulinus*' was a typographical error for '*Bulinus*.' Whether this was the case or not would have absolutely no effect upon our use of the name, for (1) Scopoli's group does not rest upon Adanson for its elucidation, nor does he refer to Adanson's page or plate; (2) that it was a typographical error cannot be proven; it may have been an emendation on etymological grounds and Scopoli's subsequent use of the same orthography would show it to have been a deliberate change; and finally (3) Adanson being pre-Linnean cannot prejudice properly proposed post-Linnean names.

"It would appear that *Bulinus* Scopoli, by process of elimination, must replace the generic name *Bithynia*."

Kennard and Woodward, Proc. Malacological Society of London, December, 1924, vol. 16, p. 126, have reviewed the several opinions on *Bulinus* Scopoli, concluding that "*Bulinus* was an obvious mistranscription for *Bulinus*; it must be treated as such, and discarded in future literature."

It may be remarked here that if *Bulinus* be synonymized with *Bulinus* Adanson, its type will become *Bulinus senegalensis* Mueller, and unless the name be emended, it will displace the genus *Bulinus* O. F. Mueller, 1781, a name very widely used in zoological and medical literature.

Bulinus O. F. Mueller

Bulinus "Adanson" O. F. Mueller, 1781, Der Naturforscher, vol. 15, pp. 5 and 6. For four species: *Bulinus perla* (= *Physa fontinalis* (Linnaeus)), *B. turritus*, *B. gelatinus*, and *B. senegalensis* (this last based upon Adanson's "le Bulin, *Bulinus*"). Type by tautonymy: *Bulinus senegalensis* O. F. Mueller, "le Bulin" of Adanson.

The name *Bulinus* was introduced into binomial nomenclature by O. F. Mueller. He states that his intention was to provide genera for the fresh-water snails with two bristle-shaped tentacles with eyes at their inner bases. He suggests that the "Tellerschnecken" keep the name *Planorbis* while Adanson's name *Bulinus* could be accepted for the "Eyförmigen."¹ Of the latter, four species were known to him. The *Bulinus perla* was fully described and figured, and is recognized to be *Physa fontinalis* (Linn.). This species was designated type of *Bulinus* by Hermannsen (1846, Index Gen. Malac., vol. 1, p. 140).

¹ "So kann doch bis dahin, den Schneckenliebhabern zu Gefallen, die den Begriff einer Tellerschnecke bey dem Eyförmigen nicht ausstehen können, der Name Tellerschnecke denen mit platter Schaale verbleiben, und die mit länglichen Schaaalen den Adansonischen Namen *Bulinus* annehmen." (1781, Der Naturforscher, Halle, vol. 15, p. 6.)

Mueller's fourth species was *Bulinus senegalensis* defined by a reference to Adanson, 1757, Hist. Sénégal, Hist. des Coquillages, p. 5, pl. 1. He also states that "*Adanson erfand ihr einen neuen Geschlechtsnamen (Bulinus).*" Obviously, therefore, Adanson's *Bulinus* becomes type of *Bulinus* by absolute tautonymy.¹ Otherwise the name *Bulinus* Mueller, 1781, would supersede *Physa* Draparnaud, 1801, a name very widely used and universally accepted.

The status of *Bulinus* Mueller has been discussed by Von Martens,² who accepted *Physa fontinalis* as its type, but refused to substitute *Bulinus* for *Physa*. Later, Dall³ went over the ground, reaching a conclusion which we accept without reserve. Finally Kennard and Woodward⁴ considered the question, concluding that Mueller's "adoption of Adanson's name (*Bulinus*) involves the acceptance of his shell as the type of the genus. Since, however, that is indeterminate, this post-Linnean revival of the name is rendered nugatory. But for that, *Bulinus* Mueller would have precedence of *Physa* Draparnaud, 1801."

This conclusion seems to us incorrect in at least two statements. Adanson's species has been determined. It was defined very well, and with specimens from the type locality, no zoologist should go astray in its identification. Its acceptance does not displace *Physa*, but on the contrary, if it were to be thrown out as indeterminate, then *Bulinus* would take the place of *Physa* having *Physa fontinalis* as its type. The International Rules expressly exclude indeterminate species [or, rather, species inquirendae from the standpoint of the author of the generic name at the time of its publication.—C. W. S.] from consideration in the selection of genotypes.

Bulinus came into general use for the group under consideration and is to be found in the most widely used systematic works on general conchology, such as H. and A. Adams, Genera of Recent Mollusca; Tryon, Structural and Systematic Conchology; Fischer, Manuel de Conchyliologie, and others.

The new name (or emended spelling) *Bullinus* originated with Oken, 1815, and in recent years has been taken up by several authors. Oken's work was a mere compilation from Mueller; only the same species were mentioned. The revival of Oken's name for the group was apparently due to the fact that Adanson, being pre-Linnean, could not properly be quoted for the genus, and to ignorance of the prior work of Mueller. *Bullinus* Oken, according to the Rules of the International Commission, is an absolute synonym of *Bulinus* Mueller.⁵

DISCUSSION.—The following facts (a, b) may be noted in regard to the derivation of the names:

(a) *Bulinus* Mueller, 1781.—Adanson, 1757, p. 5, states:

Le Bulin, *Bulinus*. Pl. 1. Je donne le nom de Bulin à un petit coquillage d'eau douce, qui vit communément sur la lentille de marais, et sur le lemma, dans les marais et les étangs de Podor. Cette dénomination m'a paru lui convenir par-

¹ This conclusion is based upon the International Code of Zoological Nomenclature, Art. 30d, and Opinions 16 and 18.

² 1898, in P. and F. Sarasin, Materialien z. Naturg. Insel Celebes, Die Süsswässer-Moll., p. 83.

³ 1905, Harriman Alaska Exped., Land and Fresh-Water Moll., p. 105.

⁴ 1920, Proc. Malac. Soc. Lond., vol. 14, pp. 86-88.

⁵ The combination "*Bullinus* Adanson" used by some authors is ruled out because it is erroneous—Adanson never used "*Bullinus*"—and because a pre-Linnean author is not quotable as authority for generic or specific names.

ceque l'animal pendant sa vie nage presque continuellement à fleur d'eau, et qu'après sa mort sa coquille flotte comme une petite bulle d'air transparente. Je n'ai observé qu'une espèce de ce genre, et elle n'est figurée ni décrite nulle part.

From this it seems clear that "Le Bulin, *Bulinus*" means a little bubble, namely, the diminutive of the French "la bulle," Latin, "*bullula*."

As Adanson uses the correct orthography of the word "la bulle" on page 5, and as he consistently uses "Le Bulin, *Bulinus*" in at least three different places, and the French word "bulin" in a fourth place also, it seems obvious that he intended to coin a new French masculine noun "le bulin" as name for this mollusk and that he made his Latin diminutive *Bulinus* agree with the French in form rather than adopt a Latin feminine noun, *bullina* based on the Latin feminine *bullula*. Accordingly, the word *Bulinus* is a relatively modern, 18th century, Latin name. It is to be noted that Adanson had rather advanced views on nomenclature and sought to use names which were not preoccupied. For instance, he says (p. XVIII): "J'agirai de même à l'égard des noms adjectifs, tels que la tuillée, la chambrée, la tanée, etc. Je leur substituerai un terme neuf, qui n'aura eu jusqu'ici aucune signification."

Agassiz, 1842-46a, 13, interprets *Bulinus* as a corrupted derivative of *Bulla*.

(b) *Bulinus*.—According to Agassiz, 1842-46a, 13, Herrmannsen, 1846, 147, and Leunis, 1883a, 887, *Bulinus* is derived from the Greek βούλιμος, meaning a ravenous hunger. Compare the medical terms bulimia, bulimiasis, bulimy, and bulimic, namely, an excessive or morbid hunger which sometimes occurs in idiots and insane persons and is also a symptom of diabetes mellitus and of certain cerebral lesions.

(c) The Secretary has examined the original documents with the following results:

(d) *Bulinus* Adanson, 1757, 5-7, pl. 1, is a pre-Linnean monotypic generic name without nomenclatorial status under the Code but available, of course, as bibliographic reference.

(e) *Bulinus* Scopoli, 1777, 392, is cited without philologic derivation and attributed to "Adans." The original species of Adanson's "Le Bulin" is not cited nor is any definite reference given to "Adans." It is entirely possible that *Bulinus*, 1777, is a mistranscription or a misprint for *Bulinus*, 1757, and in fact, Kennard and Woodward, 1924, Proc. Malac. Soc. Lond., p. 127, have made out a very strong case for this interpretation in reproducing on p. 127 the figures of Adanson and calling attention to the printing of *Bulinus* Adanson

and *Pedipes* Adanson. It would take an almost microscopic eye to read correctly *Bulinus* instead of *Bulimus*; this error would however not be so natural in reading the original text of Adanson and it is safeguarded against in the original illustration by use of the word "Le Bulin." While it seems very reasonable to conclude that *Bulimus*, 1777, is a mistranscription or a misprint for *Bulinus*, 1757, the fact remains that Scopoli, in 1786, pl. 25, again used the name consistently as *Bulimus* and that in 1777 he did not quote Adanson's species. The Secretary is inclined to believe that *Bulimus*, 1777, is either a misprint for or an emendation of *Bulinus*, 1757, but he is persuaded that the absence of Adanson's species from the list admitted by Scopoli is to be given serious consideration, thus excluding *B. senegalensis* as type of *Bulimus*, 1777.

Only four species come into consideration as type of *Bulimus*, 1777, namely, *Helix putris*, *H. fragilis*, *H. stagnalis*, *H. tentaculata*, all Linn., 1758a, p. 774. The citation of *Bulimus haemastomus* as type by Beck, 1837, (possibly based upon Bruguière, 1792a, 294) and the citation of *Helix oblonga* as type by Herrmannsen, 1846, are both irrelevant, as neither species was included in the original publication of *Bulimus*. It is to be added that Apstein, 1915a, p. 182, cites *oblongus* Mueller, 1774, as type of *Bulimus* and that this species is used by at least some authors as identical with *haemastomus* Scopoli.

Dall, 1892, clearly inclines to *tentaculata* as type, but as the Secretary reads his paper, Dall does not definitely designate this species as type under Article 309 of the Code, and he (Dall) thinks that no harm would be done if *Bulimus* is eventually suppressed.

The documents presented to the Secretary do not show that the type of *Bulimus*, 1777, has been correctly and definitely designated.

(f) *Bulinus* Mueller, 1781, Naturf., 5, is clearly based upon *Bulinus* Adanson, 1757, p. 5, pl. 1; it contains four species including (1) *B. perla* Muell., 1781, syn. *Planorbis bulla* Mueller, 1774, 167, and later considered synonymous with *Physa fontinalis* (Linn., 1758a, 727), (2) *B. turritus*, (3) *B. gelatinus*, and (4) *B. senegalensis*. The fourth species *senegalensis* is the original "Le Bulin" of Adanson. Mueller does not definitely designate a type and on basis of his publication two interpretations might be possible, namely, on page 5, referring to *Bulinus perla* he says "Adanson 1757, 5, pl. 1, 'Le Bulin,' *Bulinus* erfand ihr einen neuen Geschlechtsnamen (*Bulinus*)," and he includes "Le Bulin," as one of the species. Accordingly, one might argue that Mueller's type is *B. perla* syn. *bullus* on basis of the sentence just quoted; or one might argue that *B. senegalensis* is type by absolute tautonymy (cf. Opinion 16). The Secretary inclines distinctly

toward the latter interpretation unless this be contraindicated by data not contained in the statement of the case.

The statement of the case does not show that the designation of *Physa fontinalis* by Von Martens, 1898, as type of *Bulinus* is admissible, as Von Martens' premises are not submitted. Unless Von Martens recognized *perla* as objective synonym of *fontinalis*, this type designation is debatable.

(g) In nomenclatorial discussion of *Bulinus*, the point appears not to have been duly considered that Bruguière, 1792a [1789], pp. 286-367, proposed as a new molluscan genus "Buline.—*Bulinus*; Nob.," with 113 species, and that as he uses *Bulinus* and buline, in numerous places, the question of a typographical error appears to be excluded. On page 367, he cites "Bulin, (voyez) à l'article, Buline des fontaines," namely (p. 306) "*Bulinus fontinalis*; Nob.," where he quotes "*Bulla fontinalis* Linn.," "*Planorbis bulla* Mueller," "Die Wasser-blase; die Perlen-blase . . . , La bulle aquatique" in synonymy; he also says (p. 307) "L'espèce que M. Adanson a observée dans les eaux marécageuses du Sénégal, & qu'il a nommée le bulin, est différente du Bulime des fontaines. . . . [p. 308] Je crois donc que ce sont trois espèces [cf. Bulin of Adanson; 'Buline de la Virginie' of Lister and Petiver] bien distinctes qu'il faut encore examiner avec soin & comparer, les unes avec les autres, avant de les distinguer par des phrases caractéristiques; celle de M. Adansson ne me paroît bien douteuse, mais je ne pense pas de même de celle de Lister,"

Accordingly, "le bulin" of Adanson is *sub judice* from the standpoint of Bruguière in establishing his genus *Bulinus*, and he seems definitely to exclude it from *Bulinus fontinalis*, but he does not appear to classify it definitely as a distinct species of *Bulinus*; however, he states (p. 307) that it "a tant d'analogie avec le Bulime des fontaines."

Thus, under Art. 30c, Adanson's species appears to be eliminated from consideration as type of *Bulinus* Brug., 1792.

Bruguière definitely states (p. 294) "le nom de *Buline* que j'ai adopté pour ce genre, avoit déjà été employé par M. Scopoli pour le *Buline oblong*; je l'ai conservé, parcequ'il indique son analogie avec celui de la *bulle*, à cause de l'ouverture entière, sans échancrure, qui est commune à tous les deux." This comes very close to being a designation of *oblongus* (cf. *haemastomus* Scopoli) as type species.

Accordingly, if the view advanced by Kennard and Woodward (1924, 126) be adopted (that "*Bulinus* [Scopoli, 1777] was an obvious mistranscription for *Bulinus* [1757; 1781]; it must be treated

as such, and discarded in future literature”), the generic name *Bulinus* Bruguière, 1792, comes up for consideration, since the question of a typographical error in Bruguière is obviously excluded.

The Secretary frankly admits that there are two sides to this case and that a decision in either direction might not be entirely free from the interpretation that it is in the light of settling a controversy rather than in the light of an argument based on unambiguous premises. Close decisions, more or less arbitrary and not entirely free from utilitarian influence, are sometimes necessary and the following recommendations are not entirely free from this construction.

On basis of the foregoing discussion the Secretary recommends that the Commission answer Doctor Pilsbry's questions as follows:

1. *Bulinus* Scopoli, 1777, may or may not be a typographical error for or an emendation of *Bulinus* Adanson, 1757; the question is not entirely free from doubt. If it be interpreted as a typographical error the problem at issue is not solved, for *Bulinus* Bruguière, 1792, is obviously not a typographical error.

2. The data submitted do not show that the type of *Bulinus*, 1777, has ever been properly and definitely designated.

3. *Bulinus haemastomus* seu *B. oblongus* is not available as type of *Bulinus*, 1777, so far as the premises show, but is available as type of *Bulinus*, 1792, and this designation is in harmony with Bruguière, 1792a, p. 294.

4. Under Opinion 16, *Bulinus* Mueller, 1781, has for its type *B. senegalensis*, and the Commission so rules.

5. As either of two rulings is possible in respect to *Bulinus*, 1777, the Commission here rules that this is not an obvious mistranscription or an obvious typographical error. This ruling is based upon the following premises:

- a.—In case of difference of opinion, it seems best to give the benefit of doubt to the view which will be more in harmony with current nomenclature, and this interpretation is according to the premises submitted.

- b.—The preponderance of evidence seems to be in favor of this view.

- c.—The original *Bulinus*, le bulin, 1757, is not cited with *Bulinus*, 1781, hence this is not available as the type of the latter.

- d.—If *Bulinus*, 1777, be interpreted as a typographical error, *Bulinus*, 1792, remains to be considered, and no reason has been advanced in the premises which shows the advisability of sacrificing the advantage of 15 years in priority.

e.—Under the premises submitted, not one of the species (*putris*, *fragilis*, *stagnalis*, *tentaculata*) cited under *Bulinus*, 1777, is available as type for *Bulinus*, 1781, and not one of the species (*perla*, *turritus*, *gelatinus*, *senegalensis*) cited under *Bulinus* in 1781 is available as type for *Bulinus*, 1777. Accordingly, it appears (under Art. 30c) that an objective identity of these two generic names is excluded.

In connection with the foregoing recommendations the Secretary states very frankly that there are phases of this case of nomenclature which are open to debate. In the recommendations that have been made and where he had the option of adopting either of two interpretations he has been influenced by the principle of endeavoring not to overturn existing nomenclature any more than is absolutely necessary. The generic name Le Bulin, *Bulinus* Mueller, 1781, as typified by *B. senegalensis*, belongs to the Order PULMONATA, subo. BASOMMATOPHORA.

Bulinus Scopoli, 1777, if *Helix tentaculata* be accepted as type, would belong to the Order PROSOBRANCHIATA.

Bulinus of Scopoli, 1786, if typified by *B. haemastomus* (syn. of *oblonga* Mueller), would belong to Order PULMONATA, subo. STYLOMMATOPHORA.

This species belongs to a modern family distinct from any family represented in the 1777 list of four species. It was the group represented by Scopoli's 1786 usage which Bruguière had mainly in mind, and which came into general use as *Bulinus* and continued under that name until about thirty years ago. From Scopoli's standpoint, his *Bulini* of 1777 and 1786 were congeneric—he was merely forming a new genus for the *elongated* species of Linnean *Helix*—leaving the Linnean term for the depressed and discoidal forms. Dall's suggestion to restrict *Bulinus* Scopoli, 1777, to *Helix tentaculata* was to avoid displacing either of the old and universally used names *Succinea* or *Lymnaea*; the *H. tentaculata* group (*Bithynia*) being later and comprising relatively few species.

To interpret *Bulinus* as a misprint or as an error of transcription, as might easily be done, would call for the use of *Bulinus* in its place, thus bringing about a very regrettable instance of transfer of name in a genus which is reported to contain more than 1,200 species. When two theoretical interpretations are possible either of which seems justified, a practical point of this kind is surely to be given due consideration.

The case has caused such distinct differences of opinion among conchologists, that the Secretary submitted the foregoing data to Dr. Paul Bartsch, Dr. W. H. Dall, and Dr. H. A. Pilsbry (all of the

United States), and to Dr. B. B. Woodward of London, England, and to Commissioner Frederick Chapman of Melbourne, Australia, with request for comments.

The consultants have replied as follows:

Letter from Dr. Paul Bartsch of the United States National Museum:

Dr. Dall and I have both gone over your "pink sheets," which are herewith returned, and we both feel you have splendidly covered the field and there is nothing else to say.

Letters from Dr. H. A. Pilsbry of the Academy of Natural Sciences, Philadelphia:

I have read your opinion on *Bulimus* and *Bulinus* with great satisfaction. It appears to me to cover the ground in a wholly logical manner. I am of course the more pleased because the views you adopt disturb our current nomenclature far less than any other course which has been proposed.

Since *Bulinus* has entered medical literature (as a host of *Schistosoma* in Africa, etc.) it is doubly desirable to retain the name as wholly unconnected with the prior *Bulimus*, which has been used only in totally different senses. In my report on Congo mollusks (now, I hear, about to be printed) the type, *Bulinus senegalensis*, is to be figured from the original marsh in Senegal. Kennard and Woodward's failure to identify this species was doubtless due to lack of material from that particular place.

Thank you for letting me see the very full discussion of the case *Bulimus* versus *Bulinus*. As you say, the discussion by Bruguière is very important in this connection, though I had not recognized its bearing before. I think that the Opinion will prove generally acceptable to workers in Mollusca, and it seems to me by far the most logical solution of the questions at issue.

Letter from Dr. B. B. Woodward, malacologist:

The high compliment you pay of asking my opinion of your "Opinion" ere it goes before the Commissioners although you know how divergent our views are on the enforcement of the "Rules" is fully appreciated by me.

I take it that you invite remarks on the whole draft and not merely on the conclusions expressed in the initial "Summary." It appears to me then that your draft recommendation has been drawn up after the manner of judicial decisions solely on the somewhat involved statement laid before you by the appellant without regard to whether that statement is complete or not. Had you seen your way to make yourself really familiar with the complete arguments published by Kennard and Woodward in the Proc. Malac. Soc. Lond., vol. 14, 1920, pp. 86-88, and vol. 16, 1924, pp. 125-128, instead of relying on the fragmentary quotations of the appellant, you would have found all the points fully met, and would, I venture to think, in many respects have modified your recommendation and summary, which, if I may say so, rather suggests to the Commissioners how they should vote instead of giving them the information on which to base their own conclusions as they should be left to do. It is a pity the rival statements could not be given in parallel columns.

In the first place, as admitted in the "Discussion," Adanson was a pre-Linnean writer and therefore by the "Rules" his work and names cannot be entertained. The amazing statement on the top of fol. 4 [p. 8] of your draft, that his *Bulinus* "has been determined" and that "it was defined very well, and with specimens from the type locality no zoologist should go astray in its identification" is far removed from fact. No man from Adanson's day to this has seen the mollusc, and no specimens from the type locality, which is unknown, exist! It remains an indeterminate species and the bestowal of a trivial name on it does not alter that. A few details given of it show that both anatomically and conchologically it had nothing in common with forms, like *Isidora*, that have been placed with it by writers who should have known better. It was by following Fischer that the medicos were misled into using a wrong name, which does not apply to their molluscs and it is not for the systematic zoologists to pander to the errors of the misinformed.

In the next place there is no such thing as "*Bulinus* Scopoli, 1777" or that eccentric writer would not have attached Adanson's name as author. It should be quoted as "*Bulinus* Adans., of Scopoli." The error of transcription (not a typographical error) is only too obvious (see Kennard and Woodward, 1924, p. 126). Of course if Scopoli had looked twice or read the text as he manifestly did not do, he would have seen his error and rectified it. The argument that Scopoli did not cite Adanson's species is beside the mark for he evidently, as the context shows, thought he was doing so but misspelt the name. The suggested definite statement in the opening summary of the draft "Opinion" that "The Commission rules that *Bulinus* Scopoli, 1777, is not an obvious typographic error" is hardly consonant with the admissions and more guarded statements on fol. 5, sect. e [p. 9]. If you must suggest the verdict, why not put "do not consider," instead of "rules"? Scopoli's record of 1777 cannot be considered apart from his 1786 elaboration and extension of the name to the "nec non paucae terrestres cl. Müllerii," which puts the crown on his absurd group (see Kennard & Woodward, 1924, p. 128). The restoration of "*Bulinus* Adans." of Scopoli, 1777, would only make confusion worse confounded.

Mueller's adoption of Adanson's *Bulinus*, including his bestowal of a trivial name, which, of course, becomes the type of the genus, fails for the reasons carefully pointed out by Kennard and Woodward (1920, p. 87).

As to *Bulinus* of Bruguière, 1792, whatever may be said or thought of the "*Bulinus* Adans." of Scopoli, there is the name printed in 1777 and renewed in 1786; hence by the "Rules" it cannot be used again so that the argument advanced at the bottom of fol. 6 [p. 11] that the suppression of *Bulinus*, 1777, would resuscitate that of 1792 appears to me quite fallacious. Bruguière's *Bulinus*, therefore, goes out as a homonym as admitted in the initial "Summary" of the draft "Opinion" but not made as clear as it might be in the "Discussion."

Stiles to Woodward:

Referring to your letter on *Bulinus*, I had already examined your publications of 1920 and 1924, but will order them again to see whether I have overlooked any point. I shall also take pleasure in forwarding a copy of your letter to the Commission when a draft of the Opinion is forwarded.

You, of course, understand that the statement of case in any Opinion is the statement given by the appellant and that the discussion is the part written by the Commissioner who formulates the Opinion. It is customary to refer each

case to a Commissioner who makes a special study of the data and makes his recommendations to the Commission. As in any court of law the case has to be decided upon the evidence available. Appellants can hardly expect that the Commissioners will work up the literature for them though we have done this in several cases.

I am wondering whether confusion has not arisen in regard to your interpretation of *Bulimus*, 1792. If it be maintained that *Bulimus*, 1777, is a typographic error would you still maintain that it has status in nomenclature to the effect that it invalidates *Bulimus*, 1792, or would you maintain that as a typographic error it has no status in nomenclature? In the latter premise it could not invalidate *Bulimus*, 1792.

I will go over the data very carefully again in your publications of 1920 and 1924.

Woodward to Stiles:

You ask for an explicit statement as to my opinion on the status of Bruguière's *Bulimus*, 1792, in the event that *Bulimus*, 1777, should be decided to be a typographical error. I thought I had made it quite clear in my last letter that I regarded Scopoli's "*Bulimus* Adans." as an error of transcription and not as a typographical error, and I further wrote: "As to *Bulimus* of Bruguière, 1792, whatever may be said or thought of the "*Bulimus* Adans." of Scopoli, there is the name printed in 1777 and renewed in 1786; hence by the Rules it cannot be used again. . . . Bruguière's *Bulimus*, therefore goes out as a homonym." Of course had the "*Bulimus* Adans." of Scopoli been a *nom. nud.* that would have been a different matter: it was not.

By the way, as a matter of fact, which I had forgotten, Bruguière's *Bulimus* was published in the first part of the Ency. méthod., Vers, i, which appeared in 1789 (see Sherborn & Woodward: Aun. & Mag. Nat. Hist. Ser. 7, vol. 17, p. 579) and not in 1792.

Your statement as to the method of procedure of the Commission is illuminating. It seems that unless the appellant, who is naturally biased, happens to have given a complete statement of facts it is nobody's business to see that a full case is placed before the Commission, who may, therefore, be called upon solemnly to adjudicate on imperfect evidence.

Letter from Commissioner Frederick Chapman, A. L. S.:

My conclusions on the evidence and discussion regarding the validity or otherwise of *Bulinus* Adanson are as follows:

1.—*Bulinus* Adanson is pre-Linnean and therefore has no status.

2.—*Bulimus* Scopoli may or may not be an error of transcription by that author, for Adanson's name, but is not to be considered since Adanson is pre-Linnean. But *Bulimus* Scopoli would also go by the board had he not further defined it in 1786. *Bulimus* Scopoli therefore stands.

3.—*Bulimus* of Bruguière, 1792, goes out as a homonym.

4.—*Bulinus* having been ruled out by No. 1, cannot be used again for the pulmonate forms related to *Isidora*, but Oken's name, *Bullinus*, 1815 (though apparently suggested by Adanson's name), is sufficiently different to be retained, and in this sense has been used by Hedley (Rec. Austr. Mus. 1917, vol. 12, no. 1) for the sinistral forms like *Physa* so common in the Australian region, and which I have shown to belong to the Planorbidae.

Bartsch writes:

Your letter and the enclosures from B. B. Woodward are at hand.

Dr. Dall and I have both been interested in them. We are in accord with you.

The foregoing Opinion with the above comments was submitted to the Commission for informal vote and discussion. In accordance with the expressed opinion of the Commission, the Secretary has the honor to recommend that the Commission adopt as its Opinion the following:

SUMMARY.—The Commission does not interpret *Bulinus* Scopoli, 1777, as an obvious typographical error; the premises do not show that the genotype (which must be selected from the four originally included species) has been definitely and properly designated. *Bulinus* Mueller, 1781, has for its type *Bulinus senegalensis*, and is not invalidated by *Bulinus*, 1777. *Bulinus* Bruguière, 1792, type *haemastomus* seu *oblonga* is a dead homonym of *Bulinus*, 1777.

Opinion prepared by Stiles.

Opinion concurred in by eleven (11) Commissioners: Apstein, Chapman (with reservation), Dabbene, Handlirsch, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Silvestri, Stiles, Warren.

Opinion dissented from by one (1) Commissioner: Bather.

Not voting six (6) Commissioners: Bolivar, Hartert, Kolbe, Neveu-Lemaire, Stejneger, Stone.

Commissioner Chapman attaches the following reservation to his vote:

As regards the re-consideration of vote on Circular Letter No. 130, *Bulinus* vs. *Bulinus*, I would concur with the Opinion that both *Bulinus* Scopoli, 1777, and *Bulinus* Mueller, 1781, be retained, on the proviso that *Bulinus* Oken, 1815, be regarded as the type genus for our Australian freshwater *Physa*-like molluscs (see Hedley, 1917, Rec. Austr. Mus., vol. 12, no. 1, p. 3). The shell from Senegal cannot be compared with the Australian, since, as Hedley remarks, the type has not been again recognized.

OPINION 117

TYPE OF *Lithostrotion*

SUMMARY.—Under Suspension of the Rules *Lithostrotion* is hereby standardized, with *Lithostrotion striatum* as type species, and is placed in the Official List of Generic Names.

PRESENTATION OF CASE.—By Dr. W. D. Lang and Dr. S. Smith:

We wish the species *Lithostrotion striatum* to be standardized as the genolectotype of *Lithostrotion*. The history is as follows:

Lithostrotion Fleming, 1828, History of British Animals, p. 508.

GENOSYNTYPES:

L. striatum, 1828, p. 508.

Erasmolithus Madreporites floriformis; Martin, 1809, Petreficata Derbiensia, pl. 43, figs. 3 and 4; pl. 44, fig. 5.

L. obliquum; Fleming, 1828, p. 508.

L. marginatum; Fleming, 1828, p. 508.

In 1845, Lonsdale (in Murchison, Geology of Russia, vol. 1, p. 602) mentions four species of *Lithostrotion*, namely *L. emarcium*, *L. mamillare*, *L. astroides*, and *L. floriforme*. Without definitely designating *L. floriforme* (the only genosynotype involved) as lectotype, he yet discusses and determines the characters of *Lithostrotion* upon *L. floriforme*, clearly implying that he considered *L. floriforme* as lectotype. But if the author's intention is considered, it might be argued that Fleming intended *L. striatum* as genotype of *Lithostrotion*, since he placed it first, and gave it the trivial name *striatum* which, with the name *Lithostrotion*, is an echo of Lhwyd's description "*Lithostrotion sive Basaltes minus striatum et stellatum*," to which Fleming refers in his description of *L. striatum*.

Since, however, a genolectotype must be deliberately designated ("the meaning of the expression 'select the type' must be rigidly construed"), we are bound to leave both Fleming and Lonsdale with their implied intentions, and pass on to Edwards and Haime, who, in 1851 (Mon. British Fossil Corals, p. 72) deliberately designated *L. floriforme* Fleming, as genotype of *Lithostrotion*; and the fact that thereafter both they, and nearly all other authors, abandoned this ruling, interpreting *Lithostrotion* as if the genolectotype were *L. striatum*, and including *L. floriforme* in McCoy's genus *Lonsdaleia*, does not invalidate Edwards and Haime's prior pronouncement. *L. floriforme*, then, still stands as the genolectotype of *Lithostrotion*.

Now the generic type of the coral which, since 1851, has been almost universally, though wrongly, ascribed to *Lithostrotion*, is very abundant in the Carboniferous Limestone and includes several separable forms. The same is true of the genus *Lonsdaleia* of which the genolectotype is *L. duplicata* (Martin) and which includes the species of *L. floriformis* (Martin), i. e., the *Lithostrotion floriforme* of Fleming and the true genolectotype of *Lithostrotion*. It is easily seen, therefore, that much of Carboniferous Coral nomenclature is thrown into confusion by giving the correct interpretation to *Lithostrotion*; and that time, labor, and misunderstanding would be saved, if the species *L. striatum*, which the author of *Lithostrotion* clearly intended as genotype, should be standardized as genolectotype of *Lithostrotion*.

DISCUSSION.—By Commissioner Bather:

The name *Lithostrotion* in the sense proposed by the writers is so commonly used in textbooks as well as in scientific papers that stability of nomenclature is more likely to be attained by suspending the rules in this instance than by enforcing them. I therefore commend the proposal that *L. striatum* be fixed as genotype of *Lithostrotion* to the favorable consideration of the International Commission on Zoological Nomenclature.

The papers in this case have been submitted to Dr. T. Wayland Vaughan, and his reply is appended herewith for the information of the Commission and as a part of the Opinion:

I have received your letter of January 5 and the papers relative to recognition of *Lithostrotion striatum* as the genoelectotype of *Lithostrotion*. I am not able to check all of the references given by Mr. Lang but I can check his reference to Edwards and Haime's British Fossil Corals. I am convinced that the presentation of Messrs. Lang and Stanley Smith is in all respects correct. Unless there is some urgent reason not known to me I incline to agree with the recommendation of Messrs. Lang, Smith, and Bather. I think that you know the standing of these three men. It is very high and Doctor Bather is one of the most distinguished paleontologists living. If their recommendation is not adopted the name *Lithostrotion* will have to replace *Lonsdaleia* McCoy, 1849, which would be unfortunate. I don't like to express a positive opinion until I am entirely sure that I have considered all of the different angles, but I am not inclined to make any opposition to the recommendation you have referred to me.

Notice that this case is under consideration for Suspension has been published as follows:

Monitore Zoologico Italiano, Anno 38, 1927, No. 9.

Nature, vol. 119, June 4, 1927.

Zoologischer Anzeiger, Band 71, Heft 11-12, 28 Mai, 1927.

Science (Query).

The Secretary moves that in accordance with Commissioner Bather's Opinion the Commission adopt the following:

SUMMARY.—Under Suspension of the Rules *Lithostrotion* is hereby standardized, with *Lithostrotion striatum* as type species, and is placed in the Official List of Generic Names.

Opinion concurred in by eleven (11) Commissioners: Apstein, Bather, Chapman, Handlirsch, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, six (6) Commissioners: Dabbene, Hartert, Kolbe, Loennberg, Neveu-Lemaire, Stejneger.

Motion concurred in by ten (10) Commissioners: Apstein, Bather, Chapman, Dabbene, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Stiles, Stone.

Motion dissented from by no Commissioner.

Not voting, six (6) Commissioners: Handlirsch, Hartert, Kolbe, Loennberg, Neveu-Lemaire, Stejneger, Warren.

OPINION 118

Scalpellum gabbi WADE, 1926, A NOMEN NUDUM

SUMMARY.—The name *Scalpellum gabbi* Wade, 1926, is a *nomen nudum* as of 1926, since it is definitely made dependent by its author on hypothetical specimens. See Opinion 2.

PRESENTATION OF CASE.—By Mr. T. H. Withers, of the British Museum:

In United States Geological Survey, Professional Paper 137 (Bruce Wade: The Fauna of the Ripley Formation on Coon Creek, Tennessee), Washington, 1926, p. 191, an author, whose identity is uncertain, describes and figures two cirripede plates under the heading "*Scalpellum* sp."

Following the description is the following:

"These two plates were not found together, and it is impossible to say if they belong to the same species. Should additional specimens be obtained sufficient for establishing a new species, the species might very properly be called *Scalpellum gabbi* Wade, n. sp. . . ."

A ruling on the nomenclatorial status of the name *Scalpellum gabbi* is desired.

DISCUSSION BY COMMISSIONER BATHER.—This hypothetical or conditional proposal of new names is an action that has frequently received severe and well-merited censure. If it were possible to deny validity to the present name a more effective check might be placed on the practice. There do actually seem to be reasons for such a decision.

1. The identity of the author is uncertain. Though the author of the paper as a whole is Bruce Wade, the section on *Arthropoda* is ascribed by the table of contents and by its own heading (p. 184) to M. J. Rathbun. It is quite possible for Miss Rathbun to have quoted a MS. name from a label attached by the collector, Wade, in which case she might have written "*Scalpellum gabbi* Wade." On the other hand, *Scalpellum* is not included by Miss Rathbun in the list of forms that she discusses; her contribution is headed "Class Crustacea," and the description of *Scalpellum*, is headed "Class Eucrustacea," which may indicate a difference; the name "Wade" may signify the author of the section. In this state of uncertainty one might regard the author as anonymous, but, though this presumably would put the name out of court, I find no rule or opinion dealing with anonymity.

2. The two plates, which are different parts of the test, are described separately. Neither is taken as holotype; on the contrary, the writer declines to say that both belong to the same species, and there-

fore refrains from naming either. The next sentence implies that no species can be established until further material is collected, whence it follows that the holotype would be taken from that further material. Therefore the name *Scalpellum gabbi* is hypothetically attached to a specimen not yet known, and, for all one can tell, non-existent. "Names based on hypothetical forms have no status in nomenclature" (Opinion 2).

3. Although the separate plates are described and figured, the writer has attempted no diagnosis of a species, it being clear from his own words that he could not and would not formulate any specific concept. He does not even compare his specimens with any others.

This leaves the name *S. gabbi* without definition or description; and if we seek for an "indication" in the sense of Article 25a, we find, as already shown, that any possible type-specimen is unknown. The name is therefore a *nomen nudum*.

I conclude, therefore, that as a *nomen nudum* without status the name *Scalpellum gabbi* does not come into consideration. It follows that any author can use the name for any new species of *Scalpellum* (though such action would be most ill-advised), also that any author can give the name *S. gabbi* to either of the specimens figured in Prof. Paper, 137, and the author so doing will then rank as the author of the name.

SUMMARY.—In general terms: A specific name conditional on specimens unknown to its author has no status in nomenclature.

DISCUSSION BY SECRETARY.—The foregoing papers were referred to the United States Geological Survey and to Miss Mary J. Rathbun for comment with the following result:

Letter from George O. Smith, Director:

The case of nomenclature which involves the standing of the name *Scalpellum gabbi* Wade has been considered by the paleontologists of the Geological Survey, and they have prepared the two enclosed memoranda which show that they are in essential agreement that *Scalpellum gabbi* is a *nomen nudum* without standing. On the incidental question of authorship which has been raised they are agreed that Wade is the author of the name.

Memorandum from Miss Mary J. Rathbun:

I did not write the description of the *Scalpellum* and never saw it until it was published.

On page 184, the Order Decapoda *only* is ascribed to me. Apparently Mr. Wade expected that whatever was not definitely assigned to a different author would be attributed to himself. The "Contents" on p. II (which perhaps he did not make up) does not bear that out.

Memorandum from Paleontologists of the Geological Survey:

The suggestion made by Commissioner Bather that this name might be regarded as anonymous is unwarranted, for it is published as "*Scalpellum gabbi* Wade, n. sp.," and the published record must be accepted. Miss Rathbun's denial of authorship is confirmatory evidence on this point.

On the other hand, Commissioner Bather's opinion that the name can be disposed of as a *nomen nudum* seems to be justified. Most conditional new names could not be so summarily dealt with, but the author states that "should additional specimens be obtained sufficient for establishing a new species, the species might very properly be called *Scalpellum gabbi* Wade, n. sp." (*italics ours*).

[Signed:] "In full agreement," George H. Girty, W. P. Woodring, P. V. Roundy, W. C. Mansfield, John B. Reeside, Jr.

"I concur in the above statement," T. W. Stanton.

"In my opinion the name '*Scalpellum gabbi*' is a *nomen nudum* and therefore for the present without standing." E. O. Ulrich.

"The reasoning in this matter seems to be conclusive." Charles Butts.

"The name should be considered a '*nomen nudum*' and without other standing." Edwin Rich.

Memorandum from L. W. Stephanson and C. Wythe Cooke:

The name *Scalpellum gabbi*, as it now stands has, in our opinion, no validity and can only be given validity by a revisor.

A revisor might select one of the specimens as holotype, in which case the name would apply to that specimen only, unless the revisor, or some subsequent author, could show that it exhibits a specific character or characters which would permit of its identification with other specimens.

The revisor probably would, through courtesy, credit the name to Wade, but he would be justified in claiming the credit for himself, or he would even be justified in ignoring Wade's name and applying an entirely new name to the species.

The Secretary has verified the original publication and concurs in the statement of premises and in the conclusion, and recommends that the Commission adopt the following:

SUMMARY.—The name *Scalpellum gabbi* Wade, 1926, is a *nomen nudum* as of 1926, since it is definitely made dependent by its author on hypothetical specimens. See Opinion 2.

Opinion prepared by Bather and Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting: Kolbe, Loennberg, Neveu-Lemaire, Silvestri, Stejneger.

OPINION 119

SIX MOLLUSCAN GENERIC NAMES PLACED IN THE
OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following six generic names of *MOLLUSCA* are hereby placed in the Official List of Generic Names, with types as stated: *Cerion* (*uva*), *Oleacina* (*voluta*), *Neritina* (*pulligera*), *Clausilia* (*rugosa*), *Vitrina* (*pellucida*), *Tornatellina* (*clausa*).

PRESENTATION OF CASE.—Drs. H. A. Pilsbry and H. Burrington Baker have made application to the Commission to accept twelve generic names as “nomina conservanda” [should read “in the Official List of Generic Names”]:

1. *Amphullaria* Lamarck, with *Helix amphullacca* Linné as type;
2. *Auricula* Lamarck, with *Voluta auris-midae* Linné as type;
3. *Cerion* Röding, with *Turbo uva* Linné as type;
4. *Oleacina* Röding, with *Bulla voluta* Gmelin as type;
5. *Bithynia* Leach, with *Helix tentaculata* Linné as type;
6. *Cyclostoma* Draparnaud, with *Nerita elegans* Müller as type;
7. *Neritina* Lamarck, with *Nerita pulligera* Linné as type;
8. *Clausilia* Draparnaud, with *C. rugosa* Draparnaud as type;
9. *Vitrina* Draparnaud, with *Helix pellucida* Müller as type;
10. *Artemon* Beck, with *Solarium candidum* Spix as type;
11. *Cochlicopa* Férussac, with *Helix lubrica* Müller as type;
12. *Tornatellina* Pfeiffer, with *T. clausa* Pfeiffer as type.

DISCUSSION.—The twelve names in question were ‘submitted to thirteen specialists as consultants who are familiar with the cases and with whose work these names are more or less intimately involved.

Pronounced differences of opinion as to the best course to pursue exist in regard to six of these names.

In regard to the other six names, one specialist supported “suspension,” one opposed “suspension” (without details), one saw no special cause for “suspension,” while five who opposed suspension maintained that the six names in question are valid under the Rules and therefore do not call for Suspension.

The situation is thus presented that six of the names for which suspension is asked, in order to stabilize the nomenclature, can (on basis of expert testimony of five specialists) be adopted in the Official List without valid formal objection by any of the thirteen consultants in question. The data on these six names follow:

3. *Cerion* Bolten, 1798, tsd. (1894) *Turba uva* Linn., 1758. Pilsbry and Baker report:

“*Cerion* Röding (Mus. Bolten., II, p. 90), type designated by Dall (1894, Bull. Mus. Comp. Zool. 24, p. 121), *Turbo uva* L.

Pupa Lamarck (1801, Syst. Anim. s. vert., p. 88), monotype *Turbo uva* L. (Not *Pupa* Röding.)

Pupa Draparnaud (1801, Tabl. Moll. France, pp. 32, 56), for European Pupillidae."

Discussion: *Cerion* is universally employed for the typical genus of the Cerionidae (Gastropoda Pulmonata); the only other name (*Strophia*) that has been used is preoccupied. According to Opinion 96, *Cerion* is the correct name for the genus. Its replacement by *Pupa* would be peculiarly unfortunate, as that name has usually been employed in the sense of Draparnaud (= *Pupilla* Leach), although historically both the Pupillidae and the Cerionidae (members of different suborders) were included in the one genus. Except for *Pupa* Lam., *Cerion* would be the prior name for the genus, even if dated from what many consider its first valid use, that by Mörch (1852).

According to special reports by F. A. Bather, B. B. Woodward (both of London), and F. Haas, Rud. Richter, and W. Wenz (all three of the Senckenberg Museum, of Frankfurt a. M.), this case stands under the Rules. H. A. Pilsbry and H. B. Baker (of Philadelphia), B. Rensch (Berlin), and F. L. Chapman (Melbourne), express themselves in favor of *Cerion*. Wolfgang Adensamer (Vienna) concurs. Apparently Paul Bartsch (Washington, D. C.) and L. Germain, both support *Cerion*, the former on basis of the Rules, the latter even if suspension is necessary. T. W. Stanton, speaking as a paleontologist, "would like to have the conchologists agree among themselves."

4. *Oleacina* Bolten, 1798, type *Bulla voluta* Gmelin, 1790. Pilsbry and Baker report:

"*Oleacina* Röding (Mus. Bolten., II, p. 110), monotype *O. volutata* Röding, with *Bulla voluta* Gmelin in synonymy.

Glandina Schumacher (1817, Ess. Nov. Syst. Hab. Vers. Test., pp. 61, 202), monotype *G. olivacea* Schumacher (= *Bulla voluta* Gmelin)."

Discussion: According to Opinion 96, *Oleacina* is the correct name for the typical genus of the Oleacinidae (Gastropoda Pulmonata). As Schumacher was almost as unpopular as Bolten among the early conchologists, *Oleacina* has been in use almost as long as *Glandina*, and is the one employed by recent writers. It seems best to fix it.

The consultants report as in Case 3. *Cerion*.

7. *Neritina* Lamarck, 1816, type *N. pulligera* Linn., 1766. Pilsbry and Baker report:

"'Neritine' Férussac (1807) and Lamarck (1809).

Theodoxis, *Theodoxus* Montfort (1810, Conch. System. II, pp. 350, 351), type by original designation, *T. lutetianus* Montfort = *Nerita fluviatilis* Linné (1758).

Clithon Montfort (1810, pp. 326, 327), type by original designation *Clithon corona* (L.) = *Nerita corona* L. (1758).

Neritina 'Lamarck' Rafinesque (1815, *Analyse de la Nature*, p. 144), nude name.

Neritina Lamarck (1816, *Encycl. Méth. Vers.* II, pl. 455), type designated by Children (1822-1823, *Gen. Lam.*, p. 111), *Neritina pulligera* (L.)."

Discussion: *Neritina* Lamarck (with date quoted as 1809) has been and still is usually employed for a widespread group of fresh and brackish water snails of the family Neritidae (Gastropoda Rhipidoglossa). Probably, the European species, *Theodoxus fluviatilis* (L.) is not congeneric with the East Indian *N. pulligera*, but the position of the East Indian *N. corona* (*Clithon*) is more dubious. *Theodoxus* has come into quite common use, in recent years, for at least the European species, although some writers still use *Neritina* in practically the Lamarckian sense. *Clithon* has almost never been used in a generic sense, although it is possible that the *Conchyliologie Systematique* came out in parts, and *Clithon* is on an earlier page than *Theodoxus*. The fixation of *Neritina* as a *nomen conservandum* would permit the "lumpers" to retain the customary name for the entire group, while the "splitters" could still use *Theodoxus* for the European genus.

Woodward reports:

Neritina. Regrettable as was the necessary substitution, under the Rules, of *Theodoxus* for the once familiar *Neritina* there is no valid reason beyond sentiment for reversion to the Lamarckian name. *Theodoxus* is now so widely used that its abandonment would only create more confusion. In the suggested course, which has its good points, of dividing the genus and using both *Theodoxus* and *Neritina* the former by its priority would entail the family name being Theodoxidae.

Bather reports:

7. *Neritina* should stand with genotype *N. pulligera* if generically distinct from *Theodoxus* with genotype *N. fluviatilis*. If that be possible I see no objection to retaining the name Neritinidae—but that is another question. *

Richter (concurred in by Haas and Wenz) reports:

7. *Neritina* Lamarck, 1816, mit *N. pulligera* (L.) als Typus besteht neben *Theodoxus* Montfort, 1810, mit *Nerita fluviatilis* L. als Typus, da (wie es auch der Einsender für wahrscheinlich hält: eine zoologische Frage) die Arten *pulligera* und *fluviatilis* nicht kongenerisch sind.

Will man *Neritina* und *Theodoxus* als Subgenera in einem Genus vereinigen, so heisst dieses Genus *Theodoxus* Montfort.

Da die Spezies *corona* L., der Genotypus von *Clithon* Montfort, ebenfalls einem anderen Genus oder mindestens einem anderen Subgenus angehört (wie der eine der Einsender, Baker, in seinen *Radula*-Untersuchungen, *Proc. Acad. Nat. Sci. Phila.*, vol. 75, 1923, p. 117 s., gezeigt hat) so bleibt auch *Clithon* Montf. bestehen: als Genus oder als Subgenus *Theodoxus* (*Clithon*) Montf.

Der Name der Familie (entgegen B. B. Woodward, der hierin irrt) wird dadurch nicht berührt.

Chapman reports:

VII. It appears that *Theodoxis* is untenable on account of the type being the equivalent of *Nerita fluviatilis* L. I would support the use of *Neritina* with type *N. pulligera* L., 1766.

The other reports are as under *Cerion*.

8. *Clausilia* Draparnaud, 1805, type *C. rugosa* Drap., 1805. Pilsbry and Baker report:

"*Clausilia* Drap. (1805, Hist. nat. Moll. France, pp. 24, 68), type designated by Turton (1831, Man. Land and F. w. Shells Brit., I, p. 6), *Turbo bidens* Montagu (not Linné), which he includes (p. 75) in the synonymy of *Clausilia rugosa* Drap. (= *Pupa rugosa* Drap., 1801)."


Discussion: *Turbo bidens* Montagu is not included in Draparnaud's paper under that name, and there seems to be some question as to its identity with *C. rugosa* Drap. As Turton certainly treated the two as identical, and this type designation is the first that can be considered valid and is the one accepted by the (recent) splitters of the original genus, it seems best to fix it. Later type designations indicate *Turbo bidens* L. or *Clausilia bidens* Drap. or give no authority for the species; all three (or four) "*bidens*" are identifications of the Linnæan species but are now placed in three separate genera. *Clausilia* is the earliest generic name in the Clausiliidae (Gastropoda Pulmonata).

Other reports as under *Cerion*.

9. *Vitrina* Draparnaud, 1801, type *Helix pellucida* Müller, 1774. Pilsbry and Baker report:

"*Vitrina* Drap. (1801, Tabl. Moll. France, pp. 33, 98), monotype *Vitrina pellucida*, with *Helix pellucida* Müller in the synonymy."

Discussion: *Vitrina* is the prior name for the typical genus of the Vitrininae and the earliest name in the Zonitidae (Gastropoda Pulmonata). However, Draparnaud's specimens, as figured in his more detailed work (1805), seem to have been what was later named *Helicolimax major* Férussac (1807). Montfort (1810, p. 239) chose *Vitrinus pellucidus* (as the type of his emendation) but seems also to have confused the two species. Children (1822-1823, p. 100) and Gray (1847, p. 169) designated *Vitrina pellucida* (without authority). Herrmannsen (1849, Index Malac., Vol. II, p. 696) seems to be the first definitely to settle the genotype, and chose "*Helix pellucida* M." As some writers now place the two species in separate genera, it seems best to fix *Vitrina* exactly on one of them.

Richter (concurred in by Haas and Wenz) reports: 

9. *Vitrina* Draparnaud, 1801, mit *Helix pellucida* Müller als Typus besteht nach den Regeln ohne Weiteres zu Recht.

Ob Draparnaud ausser der eigentlichen *pellucida* Müller noch eine andere Art hinzurechnete, zumal in einer späteren Veröffentlichung (1805: *Helicolimax major* Férussac, 1807) und zumal eine damals noch unbeannte Art (*major* erhielt diesen Artnamen erst 1807 durch Férussac), ist gleichgültig. Diese Tiere gehören eben nicht zur Spezies *pellucida* Müller.

Other reports as under *Cerion*.

12. *Tornatellina* Pfeiffer, 1842, type *T. clausa* Pfeiffer. Pilsbry and Baker report:

"*Tornatellina* Beck (1837, Ind. Moll., p. 80), nude name, including several nude species, among them *T. clausa*.

Strobilus Anton (1839, Verz. der Conchyl., p. 46), type designated by Gray (1847, P. Z. S., p. 175), for '*Strombilus* Alton,' *S. turritus* (*S. turritus* Anton, l. c.). Not *Strobila* Sars (1835).

Tornatellina Pfeiffer (1842, Synb. ad hist. Helic., vol. II, pp. 5, 55, 130), type designated by Gray (l. c.), *Tornatellina clausa* (= *Strobilus bilamellatus* Anton)."

Discussion: Beck's *Tornatellina* is a *nomen nudum* but Pfeiffer vested it and some of Beck's specific names. Since that time, *Tornatellina* has been universally used as the typical genus of the Tornatellinidae (Gastropoda Pulmonata), because those authors who paid any attention to the prior *Strobilus* considered it preoccupied by *Strobila*. Unfortunately, there is also the rather closely related *Strobila* Morse (1864=*Strobilops*, Strobilopsidae). *Tornatellina turrita* and *T. bilamellata* (+*clausa*) are probably congeneric, although they are generally placed in different sections of the genus. Anton's descriptions are very brief and would probably be almost unidentifiable without Pfeiffer's subsequent elaborations (1848).

Richter (concurred in by Haas and Wenz) reports:

12. *Tornatellina* Pfeiffer, 1842, mit *Strobilus bilamellatus* Anton = *T. clausa* als Typus besteht neben

Strobilus Anton, 1839, mit *S. turritus* Anton als Typus, solange die Systematiker die Arten *clausa* und *turritus* nicht als kongenerisch betrachten. Will man beide in Subgenera innerhalb eines Genus vereinigen, so muss dieses Genus *Strobilus* Anton heissen; die Subgenera würden dann heissen *Strobilus* (*Strobilus*) Anton mit *turritus* als Typus und *Strobilus* (*Tornatellina*) Pfeiffer mit *clausa* als Typus.

Bather reports:

I agree with Woodward, but point out that this solution is "proper," i. e., in accord with the Rules, only if *Strobilus* Anton be regarded as a homonym of *Strobila* Sars. Since that, according to the appellants, was the prevailing view, I would leave it undisturbed. If that be not agreed to, I would probably accept Suspension of the Rules on the ground of Confusion. [Secretary concurs.]

Other reports as under *Cerion*.

On behalf of the Commission, the Secretary wishes to express appreciation of the cooperation which the above mentioned consultants have given in connection with this case.

In respect to the name *Neritina*, the following recommendation by the Secretary is to be interpreted as applying to its generic status, in case *Neritina* is accepted as generically distinct from *Theodoxus*, but to its subgeneric status in case it is accepted only as subgenerically distinct.

In view of the pronounced differences of opinion which have developed in the cases of *Ampullaria*, *Auricula*, *Bithynia*, *Cyclostoma*, *Artemon*, and *Cochlicopa*, report is postponed until the next meeting of the Commission.

In view of the foregoing premises and discussion, the Secretary recommends that the Commission adopt as its Opinion the following:

SUMMARY.—The following six generic names of *MOLLUSCA* are hereby placed in the Official List of Generic Names, with types as stated: *Cerion* (*uva*), *Oleacina* (*voluta*), *Neritina* (*pulligera*), *Clausilia* (*rugosa*), *Vitrina* (*pellucida*), *Tornatellina* (*clausa*).

Opinion prepared by Stiles.

Opinion concurred in by ten (10) Commissioners: Apstein, Bather, Chapman, Dabbene, Horvath, Ishikawa, Jordan (K.), Silvestri, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, eight (8) Commissioners: Bolivar, Handlirsch, Hartert, Jordan (D. S.), Kolbe, Neveu-Lemaire, Stejneger, Stone.

OPINION 120

THE STATUS OF *Achatinus*, 1810

SUMMARY.—*Achatinus*, 1810, is emendation of and therefore objective synonym of *Achatina*, 1799; the designation of *zebra* as type of *Achatinus* contravenes Article 30a and c. *Achatinus*, 1810, invalidates any later use of *Achatinus* in a different sense.

STATEMENT OF CASE.—The following case has been submitted for Opinion by Dr. H. A. Pilsbry and Dr. H. Burrington Baker of the Philadelphia Academy of Natural Sciences:

What is the status of emendations of generic names?

(1) Can an emended form be used as a valid name of a genus if

(a) the original form is preoccupied or

(b) if the emendation has a different generic type?

(2) Can an emendation preoccupy a new generic name of later date?

Case 1. Can *Achatinus* Montfort be used as the name of a genus? The following names are included in this problem:

Achatina Lamarck, 1799, June or July; Mém. Soc. Hist. Nat. Paris, p. 75, monotype *Bulla achatina* L., 1758, Syst. Nat., X, p. 728.

Achatinus Montfort, 1810, Conchyl. System., II, pp. 418, 419, emendation of *Achatina*, but with type by original [definite] designation (p. 419), *A. zebra* = *Bulinus zebra* Bruguière, 1792, Encycl. méth., I, p. 357, no. 100.

Cochlitoma Férussac, 1821, Hist. N. g. et p. Moll., Table Limaçons, p. 28, type designated by Pilsbry, 1904, Man. Conch., 2nd ser., 17, p. 78, *Bulinus zebra* Brug.

Achatinus Montfort is undoubtedly an emendation of *Achatina* Lamarck because (a) Montfort almost always changed generic names so as to give them a masculine ending, and (b) he included "*Achatina zebra* Roissy" in the synonymy of his type species.

The types of *Achatina* Lamarck and *Achatinus* Montfort are now placed in separate genera. Can *Achatinus* be used for the African genus of pulmonate snails (typified by *Bulinus zebra* Brug.) or must the name become *Cochlitoma* Férussac?

DISCUSSION OF CASE.—The Secretary has verified the following references:

Achatina Lamarck, 1799, Mém. Soc. Hist. nat. Paris, p. 75, mt. (Article 30c) and tat. (Article 30d) *Bulla achatina* Linn.

Montfort, 1810, Conch. Syst., vol. 2, pp. 418-420, referring to the vernacular name "L'Agathine" quotes a generic name, *Achatinus*, gives a generic diagnosis and adds "*Espèce servant de type au genre, Agathine zébre, Achatinus zebra*," with bibliographic references and technical and vernacular names.

He states that:

Les Agathines forment un genre entièrement composé de mollusques terrestres, et c'est parmi eux que l'on rencontre les plus grands de ces mollusques; celui que nous décrivons tient dans cette classe la second rang

Thus it is clear that *Achatinus* was not a monotypical genus for Montfort, 1810.

On page 420 Montfort adds:

C'est à de Lamarck que l'on doit l'établissement du genre agathine; il donna pour type l'agathine variée, *bulla achatina*, de Linné, dans son Système des animaux sans vertèbres.

It is obvious that *Achatinus*, 1810, is an emendation of and therefore an absolute synonym of *Achatina*, 1799.

This case was submitted to Commissioner Bather for independent opinion which he formulated as follows:

Achatinus being merely an emendation must have the same genotype as *Achatina* which, fortunately, was monotypic. Montfort had no power to designate any other type.

Therefore, *Achatinus* cannot be used for *Bulinus zebra* Brug. if it belongs, as now alleged, to a different genus from *Bulla achatina* Linn.

Therefore, on the evidence submitted, the name for a genus with *B. zebra* as genotype must be *Cochlitoma* Férussac.

The Secretary recommends that the Commission adopt as its Opinion the following:

SUMMARY.—*Achatinus*, 1810, is emendation of and therefore objective synonym of *Achatina*, 1799; the designation of *zebra* as type of *Achatinus* contravenes Article 30a and c. *Achatinus*, 1810, invalidates any later use of *Achatinus* in a different sense.

Opinion prepared by Bather and Stiles.

Opinion concurred in by ten (10) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Horvath, Silvestri, Stejneger, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, eight (8) Commissioners: Bolivar, Hartert, Ishikawa, Jordan (D. S.), Jordan (K.), Kolbe, Neveu-Lemaire, Warren.

OPINION 121

NECESSITY FOR SUSPENSION OF RULES IN CASE OF *Agasoma*
GABB, 1869, TYPE *sinuatum*, NOT PROVED

SUMMARY.—As the arguments submitted for Suspension of the Rules in the case of *Agasoma* have not been convincing to the seven consulting conchologists and paleontologists who have studied this case, the Commission does not see its way clear to approve Suspension. *Agasoma* Gabb, 1869, type *sinuatum*, is hereby placed in the Official List of Generic Names.

PRESENTATION OF CASE.—Hoyt Rodney Gale, of Leland Stanford Jr. University, has submitted the following case:

In the "Paleontology of California," Volume 2, page 46, 1869, W. M. Gabb described a new genus which he called *Agasoma*. After describing the genus he lists two species, *Agasoma gravidum* and *Agasoma sinuata*, both of which he had described as *Clavella* in an earlier part of the same volume, which had been published separately in 1866. In both places *Agasoma gravidum* is placed before the other species, and it is mentioned as being "abundant," whereas *sinuata* is mentioned as "a rare shell." There can be little question but that Gabb had the common shell more in mind when describing the genus. The common shell has since then been well-known to all West Coast paleontologists and has become the type of the "*Agasoma gravidum* zone" of the Oligocene. It has been considered the type of the genus by West Coast workers, and other species similar to it have been described; whereas Gabb's two rather poor specimens of *sinuatum* have stood practically alone. However, it being such a generally recognized fact that *Agasoma gravidum* was the type, no one on the West Coast took the pains to state it definitely until English revised the group in 1914 (Univ. Calif. Publ., Bull. Dept. Geol. Sci., vol. 8, p. 245, 1914). In 1922, Trask, thinking *sinuatum* generically distinct, proposed the name *Koilopectura* for it (Univ. Calif. Publ., Bull. Dept. Geol. Sci., vol. 13, p. 157, 1922). In the meantime, however, and many years before English's paper was published, Cossman wrote the type of the genus as *sinuata* (Essais Paleo. Comp., vol. 4, p. 148, 1901). This fact was first brought to the attention of West Coast paleontologists by Stewart who proposed the name *Brucarkia* for what had been considered typical *Agasoma* (Proc. Acad. Nat. Sci. Phila., vol. 78, p. 399, 1926).

Cossman knew nothing at all about the situation, not realizing that one of the groups is little more than a curiosity, not realizing that the other group is so important that a change in name would be a source of annoyance and inconvenience to geologists as well as paleontologists, who even at that time knew the species of *Agasoma* as important horizon markers, not having heard of the important new species of *Agasoma* previously described by Cooper (Bull. No. 4, Calif. State Mining Bureau, p. 53, pl. 5, fig. 63, 1894), probably never having seen a specimen of *gravidum*, and surely never having seen a specimen of *sinuatum*. Thus Cossman's work is not a revision of the genus, and although the old rule requiring a man to "revise" the group in order to make the citation of the type valid does not hold, there is at least a strong feeling against his method. Cossman clearly should not have taken it upon himself to arrange a

matter about which he must have known so little. It is not surprising that the West Coast paleontologists overlooked a French citation of the type of a genus which is not known outside of the Oligocene and Miocene of California, Oregon, and Washington.

Since the original author must have intended *Agasoma gravidum* to be the type, since it has been so considered by West Coast paleontologists, since the first real reviser of the genus named it as the type, and since it would be a pity to make incorrect so much of our geologic and paleontologic literature merely because of an unwitting blunder, I ask if it is not possible, under the Suspension of the Rules, to cite *Agasoma gravidum* again as the type of the genus?

DISCUSSION OF CASE.—This case has been submitted to the following persons for study and expert opinion:

- (1) Dr. Paul Bartsch, United States National Museum, Washington, D. C.
- (2) Dr. F. A. Bather, British Museum, London, England.
- (3) Commissioner F. Chapman, A. L. S., Museum, Melbourne, Australia,
- (4) Dr. L. R. Cox, British Museum, London, England.
- (5) Dr. Rudolph Richter, Senkenbergische Naturforschende Gesellschaft, Frankfurt a. M., Germany.
- (6) Dr. T. W. Stanton, United States Geological Survey, Washington, D. C.
- (7) Dr. B. B. Woodward, London, England.

The reports from all seven consultants agree on the point that *Agasoma* does not represent a case for which Suspension of the Rules is advisable.

On basis of the advice submitted by these seven consultants, the Secretary is not persuaded that "the strict application of the Rules will clearly result in greater confusion than uniformity," and he therefore recommends that the Commission adopt, as its Opinion, the following:

SUMMARY.—As the arguments submitted for Suspension of the Rules in the case of *Agasoma* have not been convincing to the seven consulting conchologists and paleontologists who have studied this case, the Commission does not see its way clear to approve Suspension. *Agasoma* Gabb, 1869, type *sinuatum*, is hereby placed in the Official List of Generic Names.

Opinion prepared by Stiles.

Opinion concurred in by eleven (II) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Horvath, Ishikawa, Jordan (K.), Silvestri, Stiles, Warren.

Opinion dissented from by no Commissioner.

Not voting, seven (7) Commissioners: Bolivar, Hartert, Jordan (D. S.), Kolbe, Neveu-Lemaire, Stejneger, Stone.

OPINION 122

SEVEN GENERIC NAMES IN *PRIMATES* ADOPTED IN THE
OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following generic names in *Primates* are hereby placed in the Official List of Generic Names, with type species as cited: *Colobus* (*polycomos*), *Galago* (*galago*), *Gorilla* (*gorilla*), *Hylobates* (*lar*), *Lemur* (*catta*), *Pithecia* (*pithecia*), *Tarsius* (*spectrum*).

STATEMENT OF CASE.—Commissioner Apstein has proposed the following seven generic names of *Primates* as *nomina conservanda*:

1. *Colobus* Illiger, 1811, *Prodromus Syst. Mamm. et Avium*, p. 69, tsd. *polycomos* Schreber, type locality West Africa.
2. *Galago* Geoffr., 1796, *Mag. Encycl.*, vol. 2, no. I, p. 49, 1 pl., tat. *senegalensis* Geoffr. = *galago* Schreber, type locality Senegal.
3. *Gorilla* Geoffr., 1852, *C. r. Acad. Sci.*, Paris, vol. 34, p. 84, tat. *gorilla* Savage, 1847, type locality Gaboon River, West Africa.
4. *Hylobates* Illiger, 1811, *Prodromus Syst. Mamm. et Avium*, p. 67, mt. *Homo lar* Linn., 1771, type locality Malay Peninsula.
5. *Lemur* Linn., 1758a, *Syst. Nat.*, vol. I, p. 29, type *catta* Linn., 1758a, 30, type locality Madagascar.
6. *Pithecia* Desm., 1804, *Nouv. Dict. Hist. nat.*, vol. V, p. 24, Tab. méth. Mamm., 8, tat. *Simia pithecia* Linn., 1766, type locality Guiana.
7. *Tarsius* Storr, 1780, *Prodromus Meth. Mamm.*, pp. 33, 34, Tab. A, mt. *spectrum* Pallas, 1778, so. tat. *tarsier* Erxl., 1777, = *tarsius*, type locality East Indies.

DISCUSSION.—These names have been compared with the various nomenclators, with a considerable portion of the special literature on *Primates*, and with the original place of publication. In addition, they have been submitted to Dr. Gerrit S. Miller, Jr., of the United States National Museum, who considers them valid under the Rules. The Secretary has studied them and concurs in Doctor Miller's opinion.

In view of the foregoing premises, the Secretary recommends the adoption of these names in the Official List of Generic Names.

Opinion prepared by Stiles.

Opinion concurred in by twelve (12) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Horvath, Ishikawa, Jordan (K.), Silvestri, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, six (6) Commissioners: Hartert, Jordan (D. S.), Kolbe, Loennberg, Neveu-Lemaire, Stejneger.

OPINION 123

P. F. GMELIN'S ONOMATOLOGIA HISTORIAE NATURALIS
COMPLETA SUPPRESSED

SUMMARY.—Because of room for difference of opinion in interpreting many of the names in Gmelin's (1758-77) *Onomatologia Historiae Naturalis Completa*, their adoption in nomenclature would produce greater confusion than uniformity. Accordingly under Suspension of the Rules (if need be) this entire work (vols. 1-7) is hereby excluded from use under the International Rules of Zoological Nomenclature.

PRESENTATION OF CASE.—In connection with a well-known generic name in *Insecta*, J. C. Budwell of the United States National Museum, Washington, D. C., has requested an opinion on the nomenclatorial status of P. F. Gmelin's *Onomatologia Historiae Naturalis Completa*.

DISCUSSION.—Through the courtesy of the Surgeon General's Library, United States Army, the Secretary has been able to examine a complete set of this very rare and in some respects very remarkable publication, which is variously attributed to Gmelin, and to Gmelin (volumes 1-4) and Christman (volumes 5-7).

The complete title as given in volume 1 reads:

Onomatologia Medica Completa seu Onomatologia Historiae Naturalis oder vollständiges Lexicon das alle Benennungen der Kunstwoörter der Naturgeschichte nach ihren ganzen Umfang erkläert und den reichen Schatz der ganzen Natur durch deutliche und richtige Beschreibungen des nützlichen und sonderbaren von allen Thieren, Pflanzen und Mineralien, sowohl vor Aerzte als andere Liebhaber in sich fasst zu allgemeinem Gebrauch von einer Gesellschaft naturforschender Aerzte nach den richtigsten Urkunden zusammengetragen. Ulm Frankfurt und Leipzig auf Kosten der Gaumischen Handlung. 1758.

With volume 2 the chief title is dropped and the subtitle of volume 1 is adopted to read as follows: *Onomatologia Historiae Naturalis Completa oder Vollständiges Lexicon [etc.].*

The seven volumes represent a dictionary, lexicon, or encyclopedic arrangement of names (chiefly Latin) in alphabetic order. [*Onomatologia, i. e., Nomenclator.*] Under generic names the specific names are given alphabetically.

The last work of Linnaeus cited in the bibliography given in volume 1 is his *Systema Naturae*, 1748. Thus it is clear that the *Onomatologia* starts out on the pre-Linnean system of nomenclature without reference to the Linnean system of 1751; furthermore, in the earlier volumes the entries lack date and page references.

In a supplementary bibliography given in volume 3, the tenth edition of Linnaeus' *Systema Naturae* is cited, and to this the date "1760" instead of 1758 is given. Accordingly it is not strange that with this

number Linnean names (on a binary and binomial basis) with page references are cited.

In volume 4, 1773, according to the Introduction, p. 5, the twelfth edition of Linné's *Systema Naturae* is definitely adopted.

The introduction to volume 5, 1775, pp. 2-3, definitely states that Linnean method and terminology are adopted.

Accordingly the seven volumes represent two different plans of nomenclature—one, the pre-Linnean (polynomial) and the other the Linnean plan (binary and binomial). This point in itself might tend to make confusion for many in case this series of books is admitted under the International Rules, as it would add numerous new cases to a group of names which, though settled in principle by the Rules and Opinions, is still made a subject of controversial discussion.

A second point of confusion would arise from an element which the Secretary interprets as a cross-reference to the species, but which some authors, not without justification, might argue represents entries of new generic names. Under this latter interpretation confusion will result and the extent of this confusion cannot at present be foreseen. As examples, the following may be cited:

- Vol. 2, 1761, p. 267, "*Bombyx* *Papilio Bombyx* der Seidenwurm";
- Vol. 3, 1766, p. 469, *Crocodilus* (referred to Linn.) is cross-referenced to (s. [= sic]) *Lacerta crocodilus* Linn., tenth edition;
- p. 566, "*Cypraca Lynx*. s. *Lynx Cypraca*," cf. vol. 4, 1773, p. 918, "*Lynx Cypraca Lynx*." Thus *Lynx* might become the name of a mollusk, and *Lynx* Kerr, 1792, mammal, would then become a homonym;
- p. 585, *Dama* is quoted as if it might be a generic name, and refers to *Cervus dama* Linn., tenth edition, p. 67, no. 5;
- Vol. 6, 1775, p. 2, "*Paca*. s. *Cavia Paca*." This might be interpreted by some authors as a new generic name based on *Cavia paca*;
- p. 619, "*Polcat*. s. *Viverra Putorius*." Probably for the English polecat, but might easily be interpreted as a generic name;
- p. 815, "*Rattus s. Mus Rattus*";
- p. 815, "*Rattus moschatus*" quoted from 1725. Two interpretations might be made by different authors: (1) that the genus *Rattus*, type *Mus Rattus* is proposed and that this genus includes also *Rattus moschatus*; or (2) that *Rattus* is a specific cross-reference to *Mus Rattus* and that *Rattus moschatus* is simply a quotation from 1725.

A third type of confusion would result because of the entries of pre-Linnean names in connection with which it is sometimes difficult to conclude whether they are blind dictionary (or bibliographic) citations or whether they should be interpreted as adopted by the author. Examples:

- Vol. 2, p. 114, "*Bacillus*. s. *astacus petrificatus vulgo*," cf. "*Astacus petrificatus vulgo* versteinerte Krebse," vol. 2, p. 21. *Bacillus* would stand in danger of being transferred from the insects to crustacea;

p. 214 ff., *Blatta* is used both for roaches and (as *Blatta bizantia* Rondeletti) for the operculum of an African mollusk.

Vol. 3, p. 503, *Cuniculus*, the rabbit, with species, quoted from Gesner.

Vol. 5, 1775, p. 52, *Mandril* refers to large man-like apes on the Gold Coast of Africa, bipeds, not quadrupeds. The word might be interpreted as a generic name by some authors or might be interpreted as a vernacular name. If interpreted as a generic name some authors would probably look upon this as the correct name for the chimpanzee.

Vol. 2, p. 278, "*Bos*, der Ochs";

p. 286, "*Bos pisces*" (referring to *Bos* Plin., a fish).

Sherborn (1902a) cites the *Onomatologia* in the bibliography to his *Index Animalium*, part I, but he rejects its names on the ground that they are not binominal "[n. b]."

As a source of historical information on the early ideas and concepts in zoology this *Onomatologia* is undoubtedly a wonderful and valuable piece of work which will be found useful by any zoologist dealing with species published prior to 1777.

The publication in question is exceedingly rare and difficult to obtain. Its acceptance in nomenclature would place numerous systematists working on Linnean genera and species at a very distinct disadvantage and at this late date in the progress of nomenclature it would be difficult to justify the imposition of this inconvenience to specialists in the Linnean genera, especially since this might involve financial outlays which science can ill afford in the present state of world economics.

The one and only argument in favor of the acceptance of this work on a nomenclatorial basis, as far as the Secretary can see, is represented by the principle of the blind adherence to the Law of Priority no matter what the consequences may be.

Under the circumstances the Secretary recommends the adoption of the following as the Opinion of the Commission:

SUMMARY.—Because of room for difference of opinion in interpreting many of the names in Gmelin's (1758-77) *Onomatologia Historiae Naturalis Completa*, their adoption in nomenclature would produce greater confusion than uniformity. Accordingly under Suspension of the Rules (if need be) this entire work (vols. 1-7) is hereby excluded from use under the International Rules of Zoological Nomenclature.

Opinion prepared by Stiles.

Opinion concurred in by twelve (12) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Horvath, Jordan (K.), Silvestri, Stejneger, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

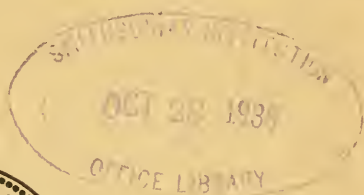
Not voting, six (6) Commissioners: Bolivar, Hartert, Ishikawa, Jordan (D. S.), Kolbe, Neveu-Lemaire.

SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 73, NUMBER 8

OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 124 TO 133



(PUBLICATION 3395)

CITY OF WASHINGTON
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OPINION 124

LINNAEUS, 1758, SUBDIVISIONS OF GENERA

SUMMARY.—The various Subdivisions of genera published by Linnaeus in 1758 are not to be accepted as of this date (1758) as of subgeneric value under the International Rules.

STATEMENT OF CASE.—Several zoologists have requested the Commission to make a definite ruling in regard to the status of the subdivision of genera found in Linnaeus, 1758*a*. One case is before the Commission at present (*Bulla*) which makes a ruling on this point very desirable and at least one other case is likely to be submitted to the Commission in the very near future.

DISCUSSION.—Considerable difference of opinion exists among zoologists as to the status of the subdivisions of genera used by Linnaeus, 1758*a*.

On account of the situation presented, the Commission has made a page by page study of the tenth edition of the "Systema Naturae" and has tabulated the subdivisions into various categories. A result of this tabulation shows conclusively that it is impossible to look upon all these subdivisions as definitely named subgenera, and if one attempts to grant subgeneric nomenclatorial value to certain of these categories and to deny it to others it is found to be exceedingly difficult, in fact impossible, to present a plan which is free from objection.

The subject was laid before the Commission in Circular Letter No. 137, series 1928, and this Circular Letter with the text of the tenth edition was studied by the Commission during its meeting in Padua in August and September 1930.

As a result of this study the Commission adopted the following paragraph in its Minutes for August 30, 1930:

After a discussion of the so-called subgenera in Linnaeus, 1758*a*, the Secretary was instructed to prepare an Opinion to the effect that these are not sub-

genera, but if any group of specialists finds that because of the literature on said group this Opinion will produce greater confusion than uniformity, the Commission is prepared to take up individual cases under arguments which may be submitted.

Pursuant to these instructions, the Secretary presented the draft of this Opinion for formal vote.

The adoption of this Opinion automatically settles the case of *Bulla* now before the Commission, i. e., the alleged subgenus *Bulla* Linn., 1758, insect, is not a subgenus under this Opinion and therefore does not affect in any way the standing of *Bulla* Linn., 1758a, mollusk.

Even in absence of this Opinion the case of *Bulla* would be settled under the following amendment to Article 36 (on homonyms) adopted at Padua, 1930:

When homonyms are of the same date, whether by the same or by different authors, then any name proposed for a genus takes precedence over a name [its homonym] proposed for a subgenus. The same principle is applicable to homonyms of species and subspecies of identical date.

The Secretary has the honor to recommend that the Summary as given above be accepted as the Opinion of the Commission.

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Cabrera, Pellegrin, Horvath, Ishikawa, Jordan (K.), Stephenson, Silvestri, Stejneger, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, five (5) Commissioners: Bolivar, Handlirsch, Jordan (D. S.), Richter, Warren.

OPINION 125

Boros HERBST, 1797, AND *Boros* AGASSIZ, 1846, VS. *Boros* ALBERS, 1850

SUMMARY.—*Boros* Agassiz, 1846, is an emendation of, and therefore an absolute synonym of, *Boros* Herbst, 1797; *Boros* Albers, 1850, is a dead homonym.

STATEMENT OF CASE.—Dr. H. A. Pilsbry, of the Academy of Natural Sciences of Philadelphia, submits the following case for Opinion:

In *Archiv für Naturgeschichte*, Jahrg. 92 (for 1926), Abth. A, 8 Heft, July 1928, p. 66, E. Strand proposes to reject the name "*Boros* Albers, 1850", on account of *Boros* L. Agassiz, *Nomencl. Zool.*, 1846, in Coleoptera, and to replace it by *Corus* Jousseaume, 1877.

Boros was suggested by Agassiz (*Nom. Zool. Index Univ.*, p. 49) as an emendation of *Boros* Herbst, 1797. Under present conditions the names *Boros* and *Borus* would be considered sufficiently different (Opinion 25 of the International Commission). In my opinion the original spelling of each name is all that need be considered; subsequent variants or emendations having no status in nomenclature. According to this view *Boros* Albers will stand.

"*Corus* (*Bulimus*) *valenciennensi*" (sic) was mentioned with other snails by Jousseaume (*Bull. Soc. Zool. France*, vol. 2, p. 311, 1877), but without any intimation that the name was new. In the same paragraph and elsewhere in the same communication, new names proposed are so designated, and moreover are printed in heavy face type. It is clear, therefore, that "*Corus*" was a pen error or printer's error for *Borus*. Such an error seems the more likely as there are two mistakes in the name "*valenciennesi*" (a well-known species of *Borus*) in the same line. I do not think that such an evident error is available as basis for a new name.

Megalobulimus K. Miller, *Malak. Blätter*, vol. 25, p. 172, 1878, for *Borus garcia-moreni* Miller (= *B. popelairianus* var. *thammianus* v. Martens) is available for the *Borus* group in case *Borus* is rejected.

DISCUSSION.—This case was studied independently by Commissioner Bather, by the Secretary, and by Dr. Paul Bartsch of the United States National Museum. The opinions prepared by all three are in agreement. The Opinion as worded by Commissioner Bather reads as follows:

By Art. 19, the name *Boros* Herbst should be preserved unless an error of transcription, a *lapsus calami*, or a typographical error is evident. Since the name is obviously the Greek *βόρος* none of these is evident.

But by Art. 8, Recommendation *a* and Appendix *f*, Herbst "should" have written *Borus*. Since this recommendation is based on the previous usage of both classical scholars and the early systematists (who were for the most part scholars), Agassiz was within his rights in emending to *Borus*.

If his right be disputed, then, since there is no possible question of an error of transcription, etc., *Borus* Agassiz is a synonym of *Boros* Herbst.

Borus Albers, it can hardly be doubted, is also a transliteration of *Boros*. If a correct name, it is a homonym of *Borus* Ag. If incorrect, it should be written *Boros* and so becomes a homonym of *Boros* Herbst. Art. 36, Recommendation, does not apply to this case.

Therefore according to strict application of Art. 34, and Opinion 83, *Borus* Albers is to be rejected.

The Secretary recommends that the Summary, as given above, be adopted as the Opinion of the Commission.

Opinion prepared by Bather, Stiles, and Bartsch.

Opinion concurred in by fourteen (14) Commissioners: Apstein, Bather, Cabrera, Chapman, Horvath, Ishikawa, Jordan (K.), Pellegrin, Richter, Silvestri, Stejneger, Stephenson, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, four (4) Commissioners: Bolivar, Handlirsch, Jordan (D. S.), Warren.

Commissioner Richter adds:

Ich stimme der Opinion zu.

Zur Discussion, Absatz 3, habe ich aber grundsätzlich zu bemerken: *Nichtbefolgung eines Ratschlags bei der Aufstellung eines Namens gibt kein Recht, den Namen nachträglich im Sinne dieses Ratschlags zu ändern.* Herbst, 1797, "should have written *Borus*"; wenn er aber *Boros* geschrieben hat, so hat Agassiz, 1846, nicht das Recht, *Boros* in *Borus* zu ändern.

OPINION 126

NEW NAMES IN D'ORBIGNY'S, 1850, "PRODROME" ARE NOMENCLATURALLY AVAILABLE

SUMMARY.—On basis of evidence and expert advice of outstanding specialists, the Commission does not see its way clear to declare the new names in d'Orbigny's, 1850, "Prodrome" as unavailable or as *nomina nuda* under the Rules.

PRESENTATION OF CASE.—The following case has been submitted by L. R. Cox and W. J. Arkell:

That the new specific names published by A. d'Orbigny in his "Prodrome de Paléontologie Stratigraphique Universelle" (3 vols., Paris, 1850) shall be considered as *nomina nuda* and shall have no status in nomenclature, unless they are accompanied by a reference to a figure or description published by some previous author.

As specialists in the Mesozoic Mollusca, we are of the opinion that the suppression of these names is desirable in order to avoid numerous changes in current nomenclature, while few, if any, changes would result from such suppression. The "Prodrome" purported to be a complete synopsis of the fossil Invertebrata known to the author at the time of its compilation (1847). Besides listing all species which had been described prior to that date, and providing new specific names in cases of preoccupation, etc., it includes a great number of new names given to previously undescribed species; most of these came from French localities and were represented in the author's own collection. In each case the horizon and localities are given, and a brief comment is made on the species, but this rarely occupies more than two lines and is quite inadequate as a specific diagnosis. Examples: "*Teredo antiquatus* d'Orb., 1847. Espèce à tubes très-longs. France, Thouars (Deux-Sèvres)" (vol. 1, p. 251); "*Lucina sarthacensis* d'Orb., 1847. Espèce très-comprimée, presque circulaire. France, Pizieux, Chaumont" (vol. 1, p. 339).

If these names are discarded as *nomina nuda*, as here suggested, d'Orbigny's species will only be valid as from the date of their earliest description by a later author. Example: *Astarte socialis* d'Orbigny (vol. 2, p. 60) will date from its description by De Loriol in 1867 (Mém. Soc. Phys. Genève, vol. 19, p. 60), and will be referred to as "*Astarte socialis* de Loriol ex d'Orbigny." In most cases the first descriptions of d'Orbigny's species are in a work by M. Boule and others now appearing in installments in the "Annales de Paléontologie", and figuring the supposed types. In a few cases d'Orbigny's species have been guessed at and misinterpreted by later authors; such misinterpretations, if accompanied by proper descriptions, will be accepted as having the status of original descriptions. In most cases later workers have necessarily ignored d'Orbigny's species, and many of them have been described under other names, which are now familiar in the literature. Names proposed by d'Orbigny as substitute-names, etc., will of course remain valid, since they are accompanied by references to descriptions in previous literature. D'Orbigny's new genera will not be valid if the only

species referred to them are those suppressed as *nomina nuda* (e. g., *Sowerbya* d'Orbigny, vol. 1, p. 362, will be rejected in favor of *Isodonta* Buvignier, 1851, in accordance with current practice); in most cases the new genera include previously described species, and genotypes will be available.

DISCUSSION.—The decision on this case is obviously one of far-reaching importance, and is likely to be cited more or less frequently by various authors in reaching decisions on similar cases. It seemed wise, therefore, to obtain expressions of opinion from a number of specialists in different parts of the world before preparing a formal opinion to be submitted to the Commission for vote. In response to invitations to specialists to discuss the case, the following replies have been received.

L. R. Cox states:

In submitting the question of d'Orbigny's "Prodrome" names to the International Commission, our primary object was to obtain a *definite ruling* upon a matter in which uncertainty has always existed, the majority of authors having deliberately rejected these names as being accompanied by absolutely inadequate descriptions. It seemed to us that it would be unreasonable to revive his names, with the resulting disappearance of familiar ones, without obtaining some opinion on the matter, and our recommendation was made in the hope that it might be possible to avoid such changes.

The main objections to our recommendation are:

1. It would be a dangerous precedent to create, since the validity of several early authors might similarly be questioned. Also, a description which now appears inadequate may have been quite sufficient at a time when fewer species were known.—D'Orbigny, however, writing so late as 1847, cannot be classed with authors half a century and more before him. Descriptive terminology was very well advanced by his time, and in his other works he gives good descriptions and figures, showing that his "Prodrome" descriptions were not intended very seriously.

2. The "Prodrome" is a work of great merit, and Professor Boule protests against a proposal to set it aside so lightly.—The value of this work for the purpose for which it was compiled is not questioned, but in the Introduction (p. lvi) d'Orbigny says: "En publiant notre "Prodrome de Paléontologie Stratigraphique" nous n'avons pas eu en vue de décrire des espèces." The new names were probably merely introduced in the same way as *nomina nuda* often get published in lists prior to description of the species, and it is quite certain that d'Orbigny intended to publish proper descriptions in the "Paléontologie Française", later on.

3. Even if his descriptions are valueless, his types have always been accessible in Paris.—The idea that the publication of a description is an unimportant formality, the preservation of a type specimen being the chief thing, seems to be current in some quarters, but fortunately not among paleontologists in general. We might just as well accept *nomina nuda*, where a type specimen is extant.

I realize that this is an important test case and it may prove discreet for the Commission to rule once and for all that no specific name published, even with only a single word of comment is to be rejected on the grounds of inadequate description.

In a letter to Dr. Bather, W. J. Arkell discusses the case as follows :

Cox's letter to you on the subject of d'Orbigny seems to me to be rather too unconcerned. To say "that our primary object was to obtain a definite ruling", as if it did not matter much one way or the other, is too mild a statement for my view of the case, so may I give my reasons more fully?

Dr. Stiles, in the last paragraph of his letter (herewith), says "but in this particular instance it is not clear to me how many names are involved or how much of an upset would occur." At the outset, therefore, I should like to make it clear that I am in favor of the suppression of d'Orbigny's "Prodrome" names, not because of any prejudice against d'Orbigny or his work, but solely to prevent just such an "upset" of a very large number of familiar species.

I am fresh from trying to compile a monograph of the Bathonian Lamellibranchs, and it has been vividly brought home to me in the course of this work what a revolution in nomenclature the recognition of the "Prodrome" names would bring about. For the "Prodrome" was published in 1850, and Morris and Lycett's "Monograph on the Mollusca from the Great Oolite", from which nearly all our familiar names are drawn, was published in 1853-4. Morris and Lycett, who described and figured the species so well, very rightly gave up the attempt to interpret the "Prodrome" species, which they regarded as virtual *nomina nuda*. In the few instances where they thought they recognised one of d'Orbigny's species they were always wrong. For instance, *Trigonia cassiope* [of] Lycett is not *T. cassiope* d'Orb., which has since turned out to be a synonym of *T. pullus* Sow. The original diagnosis was as follows: "Espèce voisine du *T. Costata*, mais plus longue et pourvue sur l'area anale de trois grosse côtes saillantes crenelées indépendamment des côtes intermédiaires: Luc. Vézelay, etc." On this Boule comments in the "Types du Prodrome", 1913, p. 145: "Cette diagnose a donné lieu à des interprétations diverses. Lycett a décrit et figuré sous ce nom des échantillons qui doivent être pris comme types (Suppl. Mon. Moll. Gt. Ool., pl. 37, fig. 10, et Mon. Brit. Foss. Trig., pl. 32, figs. 1 and 5). La collection d'Orbigny renferme sous ce nom des échantillons variés; les uns sont indéterminables, tels que celui de Vézelay, la plupart des autres sont des *T. pullus* Sow., ainsi que l'a reconnu M. Bigot."

Again, with regard to *Myoconcha actaeon* d'Orb., Boule writes: "L'échantillon de la collection d'Orbigny est très mauvais; il faut prendre comme type la figure de *M. actaeon* donnée par Morris et Lycett. . . ."

You will notice that in both these quotations there is a tacit assumption that it is only d'Orbigny's *type specimen* which could give the name validity, but when this has to be rejected Morris and Lycett's species should be regarded as the types. There is no suggestion that d'Orbigny's *descriptions* should give the species validity.

If we reject some of d'Orbigny's names on the ground that the type specimens are unsatisfactory, it seems to be introducing an arbitrary factor in the form of personal opinion, and I do not see how anyone is to pronounce finally whether the type specimen of any species is satisfactory or not. Anyone's work is liable to be overturned at any moment by the expression of a different Opinion about the d'Orbigny collection in Paris. I have referred to this collection in a few cases myself, and know there is plenty of scope for different interpretations. The species in many of the boxes are composite.

How little thought d'Orbigny bestowed on the assigning of his names is shown by the system on which he worked. He gave all the species of one genus fantastic names with the same initial letter, after the manner of naming a class of warships or liners, e. g.: *Lima harpax*, *L. hellica*, *L. hippia*, *L. hille*; *Arvicula jason*, *A. janassia*, *A. janira*, *A. jarbas*, *A. jonthé*, etc. Many of the names so lightly assigned are scarcely worthy of varietal distinction. For instance five trivial varieties of forms in our familiar Great Oolite "*Cyprina*" *loweana* Morris and Lycett appear in the "Prodrome" as *C. antiope*, *C. alcyon*, *C. amphitryton*, *C. arion* and *C. arethusa*. All these names have priority over Morris and Lycett's *loweana*.

As far as my work has taken me, the recognition of d'Orbigny's names would involve the following changes in the Great Oolite alone:

Arca eudesii Morris and Lyc. would become *Arca eudora* d'Orb. *Arca tenuicosta* M. and L. would become *Arca electra* d'Orb. *Cucullaca clathrata* Leckenby would become *C. euryta* d'Orb. *Mytilus subreniformis* M. and L. would become *M. galanthus* d'Orb. *Trigonia cassiope* Lycett would require a new name. *Pecten hemicostatus* M. and L. would become *P. rhetus* d'Orb. *Astarte rustica* Lyc. would become *A. vesta* d'Orb. *Cyprina loweana* M. and L. would become *C. antiope* d'Orb. *Protocardia stricklandi* M. and L. sp. would become *P. cybele* d'Orb. *Protocardia buckmani* M. and L. would become *P. luciense* d'Orb. (?) *Unicardium parvulum* M. and L. would become *U. oxoideum* d'Orb. *Corbula agatha* Lycett would require a new name.

In the Corallian:

Nucula oxfordiana Roeder would become *Nucula hellica* d'Orb. *Myoconcha texta* Buv. would become *M. radiata* d'Orb. *Astarte subdepressa* Blake and Hudln. would become *A. pasiphae* d'Orb. *Astarte nummus* Sauvage would become *A. pelops* d'Orb. *Astarte contejeani* de Loriol would become *A. phillis* d'Orb. *Isocyprina cyreniformis* Buv. sp., would become *I. dimorpha* d'Orb. *Unicardium excentricum* (d'Orb.) Dollfuss would become *U. aceste* d'Orb.

Further research will probably bring many other changes to light, and where it will end can only be determined by prolonged study of the d'Orbigny collection in Paris. The names in the "Prodrome" being for all practical purposes *nomina nuda*, it seems only fair that they should be officially recognised as such in theory.

B. B. Woodward (London) writes:

I am entirely in accord with Mr. L. R. Cox and W. J. Arkell in considering that the new specific names published by d'Orbigny in his "Prodrome de Paléontologie Stratigraphique Univ." should be regarded as *nomina nuda* unless accompanied by a reference to a figure or description published by some previous author.

M. Boule, Professor of Paleontology at the Muséum national d'Histoire naturelle, Paris, and Curator of the d'Orbigny Collection, presents the following considerations:

Il est de mon devoir de protester contre la proposition de MM. Cox et Arkell de traiter aussi légèrement l'oeuvre considérable et si utile d'Alcide d'Orbigny et de considérer, d'ores et déjà, comme inexistantes (*nomina nuda*) les espèces du "Prodrome", en arguant du fait qu'elles n'ont pas été figurées.

Il faut remarquer tout d'abord que beaucoup de ces espèces ont été réétudiées sur place, d'après les échantillons eux-mêmes par divers paléontologistes qui en ont figuré un certain nombre dans leurs propres travaux.

De plus, la figuration très soignée des échantillons types ayant servi aux courtes descriptions de d'Orbigny dans son "Prodrôme" a été précisément entreprise par mes soins, dès 1906 dans les "Annales de Paléontologie", pour satisfaire aux desiderata exprimés de tous côtés et pour remédier dans une certaine mesure à la complication croissante et déplorable de la nomenclature.

En 1923, l'ensemble de cette publication formait un premier volume illustré de 34 planches en phototypie et de dessins dans le texte où se trouvent citées ou décrites près d'un millier d'espèces (Silurien-Bathonien), avec rappel des publications antérieures relatives à ces espèces.

Depuis 1923, ce travail se continue régulièrement dans les "Annales de Paléontologie." Les espèces des étages Callovien et Oxfordien ont été figurées, celles de l'étage Corallien sont en cours et la publication se poursuivra avec le plus de célérité possible.

Je proteste également contre l'affirmation de MM. Cox et Arkell que les échantillons figurés par nos soins sont des types supposés. D'abord beaucoup de ces espèces sont représentées par un exemplaire unique. Dans les autres cas, le type est celui qui figure en tête de l'énumération du Catalogue manuscrit de d'Orbigny. Ce n'est que dans des cas très rares qu'il peut subsister quelque doute. MM. Cox et Arkell parlent de la collection d'Orbigny sans la connaître. Le jour où ils voudront la consulter au Muséum, où elle est à leur disposition, leur opinion deviendra certainement plus favorable.

La proposition de nos confrères anglais et américains s'explique par une application du principe du moindre effort. Il est en effet plus facile de donner à des fossiles des noms nouveaux que de se livrer à de longues recherches pour les rapporter à des espèces déjà connues. Non seulement une telle manière de procéder n'est pas conforme à l'équité, mais encore elle a pour effet d'augmenter précisément les complications de nomenclature qu'on voudrait éviter.

J. F. Pompeckj, Geologisch-Paläontologisches Institut und Museum der Universität, Berlin, reports:

besteht die Gefahr, dass auch andere alte Autoren, wie z. B. Baron v. Schlotheim ähnlichen Ausnahme Bedingungen unterworfen werden.

Meiner Meinung nach müssen die d'Orbigny'schen strittigen Namen nach den Internationalen Regeln der Zoologischen Nomenklatur behandelt werden (Art. 25, a and b).

Ich kann daher dem Vorschlage der genannten Herren nicht zustimmen.

Dr. Rudolph Richter, of the Senckenbergische Naturforschende Gesellschaft, Frankfurt a. M., expresses the following opinion:

1. Hinsichtlich der Beschreibung, durch die ein Artnamen gültig wird, verlangt der Codex (Artikel 25) nur das *Vorhandensein* in der ursprünglichen Veröffentlichung. Über die *Qualität* oder *Quantität* der Beschreibung werden keine Vorschriften gemacht. In demselben Sinn hat sich Opinion 52 ausgesprochen.

Nach der *lex lata* besteht also *kein Zweifel über die Gültigkeit* auch solcher Namen in d'Orbigny's "Prodrôme", deren Beschreibung so kurz ist wie in dem angeführten Beispiel von *Lucina sarthacensis*.

2. Aber auch wenn man von der *lex lata* absieht und nur prüft, ob eine *lex ferenda* zweckmässig wäre, kommt man zu demselben Schluss:

Schon heute genügen die meisten Diagnosen der älteren Literatur nicht, um zu erkennen, welche Species der Autor gemeint hat. Zu ihrer Zeit hat eine Diagnose vielleicht völlig dazu ausgereicht, auch wenn sie nur aus zwei Worten bestand. Heute aber sind nicht nur viele Arten hinzugetreten, gegenüber denen damals noch nicht unterschieden zu werden brauchte, sondern vor allen Dingen, es sind neue Gesichtspunkte für die Systematik massgebend geworden. In dieser Richtung wird die Entwicklung weitergehen. Nehmen wir an, dass die Zoologie die Artbegriffe nach Serum oder Blutgruppen abgrenzen würde oder die Paläontologie die Abtrennung ihrer Arten nur nach röntgenographisch erkennbaren Strukturen vollziehen würde, so würden sämtliche früheren Diagnosen ungenügend werden. Wenn dann ein Chaos der Nomenklatur vermieden werden soll, so geht es nur auf den vom Codex verfolgten Wegen: Der Typus jeder Art ist nach dem neuen Gesichtspunkt zu untersuchen und neu zu beschreiben; aber an jedem Typus hängt der Artnamen unabänderlich.

Wenn er auch heute so schlimm noch nicht ist, so muss man doch oft genug den Typus untersuchen, um die ursprüngliche Beschreibung richtig zu verstehen. Die Unbequemlichkeit, die die persönliche Untersuchung der Typen nötig macht, und die gelegentliche Änderung von Namen in Fällen, wo die Vorgänger diese Pflicht versäumt haben, rechtfertigen aber nicht, das segensreiche Prinzip des Codex aufzugeben.

Denn wenn man einem späteren Autor das Recht gäbe, den Namen eines früheren Autors dadurch ungültig zu machen, indem er die ursprüngliche Beschreibung als "nicht ausreichend" anerkennt, so würde das die Subjektivität quo ante codex wieder einführen und jede Stabilisierung der Nomenklatur unmöglich machen.

Schluss: Es würde unheilvolle Folgen haben, wenn man für d'Orbigny's "Prodrome" Ausnahmebestimmungen zulassen sollte.

Dr. Wolfgang Adensamer, of the Naturhistorisches Museum, Vienna, reports:

Es scheint mir sehr wünschenswert die zahlreichen unzureichend beschriebenen Artnamen in d'Orbigny's "Prodrome de Paléontologie Stratigraphique Universelle" (3 Bde. Paris; 1850) zu eliminieren! Ich schliesse mich ganz der Ansicht der Herrn Kollegen Dr. L. R. Cox und Dr. W. J. Arkell an, dass die nicht oder unzureichend erläuterten Artnamen des d'Orbigny'schen "Prodrome" in der Nomenklatur nicht berücksichtigt werden sollen. Am Schluss der Ausführungen von Cox und Arkell heisst es: "D'Orbigny's new genera will not be valid if the only species referred to them are those suppressed as *nomina nuda*; . . .". Falls derartige Genera hinreichend beschrieben sind, halte ich es aber nicht für zweckmässig sie auszuschalten! Hier müsste die Ansicht der jeweiligen Spezialisten eingeholt werden. Auf alle Fälle ergiebt sich nicht durch das Ausscheiden aller d'Orbigny'schen Artnamen eines d'Orbigny'schen Genus das unberücksichtigt lassen dieses Genusnamens! Hier müsste eine eigene Bestimmung solche Genusnamen eliminieren.

W. C. Mendenhall, Acting Director of the United States Geological Survey, submits the following:

The proposal of Messrs. L. R. Cox and W. J. Arkell that the new specific names published by A. d'Orbigny in his "Prodrome de Paléontologie Strati-

graphique Universelle" (3 vols., Paris, 1850) shall be considered as *nomina nuda* and shall have no status in nomenclature unless they are accompanied by a reference to a description or figure published by some previous author has been considered by the paleozoologists of the Geological Survey who are now in Washington. A review of the individual opinions submitted indicates, with one exception, general agreement in the view that each of d'Orbigny's new species published in his "Prodrome" should stand on its own merits and that those that have been or can be identified should be accepted as valid. The Survey paleontologists who subscribe to this view are Charles Butts, C. Wythe Cooke, George H. Girty, W. C. Mansfield, John B. Reeside, Jr., P. V. Roundy, T. W. Stanton, and L. W. Stephenson. A dissenting view is expressed by Edwin Kirk, who states that he thinks that the proposition submitted by Messrs. Cox and Arkell is sound and he concurs in the stand they take.

R. S. Bassler and Charles E. Resser, paleontologists of the United States National Museum, wish to be recorded as in favor of the majority opinion given above.

Dr. Paul Bartsch, United States National Museum, submits the following opinion:

I cannot see how by any stretch of the imagination these names could be considered *nomina nuda* if they are accompanied by short descriptions. Furthermore, these descriptions, it would appear to me, will be found probably in almost all instances recognizable when one has ample collections from the locality in question which, as the two authors state, is always cited.

I have read, at times, through pages of descriptions, and have found it quite difficult to pull out the few things that differentiated the species or subspecies in question from another form closely allied to it, and I have frequently longed that the author would give just a few brief diagnostic characters.

If specialists, working with the fauna in question, are unable from the short description and the name to fix upon a proper candidate for the name, then it seems to me that the species in question will have to be relegated to the unrecognizable group and left there until some wise man is capable of rescuing it from that limbo.

Dr. H. A. Pilsbry, Academy of Natural Sciences of Philadelphia, reports:

The new names in d'Orbigny's "Prodrome" are not all so curtly defined as the examples given by Messrs. Cox and Arkell. Some are sufficiently defined by comparative characters for recognition and have been generally recognized. To reject all these names as *nomina nuda* would be inexact. Moreover, such an Opinion might open the question of adequacy of definition in enough other cases to swamp the Commission.

I believe it the wiser course to leave new names in d'Orbigny's "Prodrome" to be dealt with individually by the paleontologists interested.

These documents were submitted to Commissioner Bather, who has prepared the following discussion of the case:

The application by Messrs. Cox and Arkell raises many difficult questions. This must be my excuse for a somewhat long discussion before proceeding to submit an Opinion.

The expression *nomen nudum* does not occur in the Rules or Recommendations. It may occur somewhere in the Opinions, but repeated search has failed to find it. In the absence of a definition by the International Commission, it seems necessary to take the literal meaning of the words, which corresponds with general usage, viz., a generic or specific name unaccompanied by any word of definition, diagnosis, or description, by any figure, or by any reference to previous definition, etc. or figure. A statement of locality and geological horizon does not of itself prevent a name from being a *nomen nudum* (Opinion 52). Reference to a type specimen or type specimens by the register or catalogue number of a museum or collector does not of itself prevent a name from being a *nomen nudum*; à fortiori the mere existence of a type specimen has no bearing on the question (Opinion one).

It is plain that the new names introduced by d'Orbigny in the "Prodrome" are not *nomina nuda* in the sense here defined, and no ruling of the International Commission can make them so.

This conclusion has the support of Dr. Bartsch, but the other colleagues do not seem to have dealt with the precise point.

The application of Messrs. Cox and Arkell is not, however, to be dismissed because of a loose use of terms. They proceed to request that the "Prodrome" names "shall have no status in nomenclature."

The meaning of this phrase, as used by the applicants, is ambiguous. There are two kinds of status: 1. availability; 2. validity.

1. A specific name may be unavailable for various reasons, e. g., because it is pre-Linnean, unpublished in the sense of the Code, non-binominal, as well as the reasons already discussed.

2. A specific name may be invalid for various reasons, and these reasons are of two kinds—*a*, nomenclatural; *b*, zoological.

a. Invalid because a preoccupied homonym, or because established on the same type specimen or other indication as a pre-existing species, i. e., a nomenclatural synonym.

b. Invalid because held by the reviser(s) to belong to a species previously named, i. e., a zoological synonym. Invalid because the definition, figure, etc., are held by the reviser(s) to be incapable of interpretation, or, in so far as capable, then palpably incorrect and misleading.

Now the International Commission is competent to pass an Opinion on all questions raised under 1 and 2*a*, because these are questions of pure nomenclature. It is not competent definitely to decide questions under 2*b*, because these involve zoological points, and these points are not so much of zoological fact as of subjective interpretation. The Commission is, however, competent to pass an Opinion on the nomen-

clatural consequences of zoological assumptions. It is, for example, entitled to say to a zoologist; "If you honestly believe that *Cidaris zeissmanni* Desor, 1846, is the same species as *Cidaris spinosa* Agassiz, 1841, you must, other things being equal, adopt the name *Cidaris spinosa*."

Now it is on zoological grounds that Messrs. Cox and Arkell base their application. They say of the new names for previously undescribed species in the "Prodrome" ". . . in each case . . . a brief comment is made on the species, but this . . . is quite inadequate as a specific diagnosis." This apparently means that the applicants, whose expert knowledge must be admitted, are unable to recognise the species from d'Orbigny's sentences. They are entitled to their opinion, and justified in applying the Rules accordingly. The names will, so far as Messrs. Cox and Arkell are concerned, be invalid. But, as they point out, this will not stabilise the nomenclature, for other experts may hold a contrary opinion. Further, they say, the application of the Rules will result in upsetting a considerable number of names in current use. This must, it appears, be the result whatever view be held as to the validity of the names, and they claim that the only way to avoid both instability and confusion is to make the names nonavailable. This can be effected only by suspension of the Rules.

A specific instance of the difficulties may be given: *Trigonia cassiope* d'Orb. ("Prodrome", vol. 1, p. 308).

Lycett (1863) took over this name without comment and described British specimens as *T. cassiope* d'Orb. Others, however, have interpreted d'Orbigny's diagnosis differently.

Reference to the original specimens shows that, in the words of M. Boule, "La collection d'Orbigny renferme sous ce nom des échantillons variés; les uns sont indéterminables . . . la plupart des autres sont des *T. pullus* Sow." (1913, "Types du Prodrome", p. 145.)

It is open to Professor Boule to say that *T. cassiope* d'Orb. cannot be recognised from the description, and so to regard the name as invalid; or it is open to him to say that *T. cassiope* d'Orb. is a synonym of *T. pullus* Sow. But he continues; "Lycett a décrit et figuré sous ce nom des échantillons qui doivent être pris comme types." Clearly they cannot be the types of *T. cassiope* d'Orb., for they were not part of d'Orbigny's material. Is then the name *T. cassiope* Lycett available? Certainly not if *T. cassiope* d'Orb. is recognisable as a synonym of *T. pullus* for then *T. cassiope* Lycett is a homonym of later date and is to be rejected under Article 35.

But if we admit Professor Boule's other conclusion that *T. cassiope* d'Orb. is unrecognisable, then it cannot be said definitely to represent

any species, whether the same as *T. cassiope* Lycett or not the same. Therefore Article 35, if taken strictly and literally, does not apply, and *T. cassiope* Lycett can be used.

[Article 35.—A specific name is to be rejected as a homonym when it has previously been used for some other species or subspecies of the same genus.]

This interpretation of Article 35 has never been discussed, but a casual phrase in the discussion of Opinion 54 indicates that the opposite view would have been taken by the Commission in 1913. It is there said, "If *Phoxinus* Rafinesque, 1820, is unidentifiable it becomes a *genus dubium*, but the name preoccupies *Phoxinus* Agassiz, 1835." That was not the question before the commission, so that the remark is an *obiter dictum*. Nevertheless, such an interpretation would have its value in extending the principle of Article 35 and so promoting stability. Thus, in the example chosen from the "Prodrôme", *T. cassiope* d'Orb. may stand as a valid species or as a synonym of *T. pullus*, in which cases *T. cassiope* Lycett, if different, must have a new name. Or *T. cassiope* d'Orb. may be a species *dubia*, and still *T. cassiope* Lycett must have a new name.

If, as claimed by the applicants, many other names of the "Prodrôme" have been similarly misinterpreted by subsequent writers and have come into general use for species that are not those intended by d'Orbigny, then there is a *prima facie* case for considering suspension of the Rules. It becomes necessary to discuss this proposal in more detail, and to consider the arguments adduced by the applicants and by the colleagues whose opinion has been asked.

Let us take first the opinions unfavorable to the application:

Professor Boule, as Keeper of the d'Orbigny Collection, claims foremost attention. He assumes that Messrs. Cox and Arkell are unacquainted with the d'Orbigny Collection. This is not the case: Mr. Arkell has examined some of the originals for himself and finds that in some instances more than one species is included under a single name. This observation probably explains the phrase "supposed types", to which M. Boule naturally objects. If, as M. Boule implies, the holotype is fixed by d'Orbigny's MS. Catalogue, then the phrase is certainly unwarranted. It may, however, be recalled that De Loriol occasionally doubted whether the alleged type really was the type.

The valuable work being done on the collection by M. Boule or under his direction does not seem to bear on the point at issue. The absence of figures from the "Prodrôme" was not specially given by Cox and Arkell as a reason for rejecting d'Orbigny's definitions;

and it was known to them, and so stated, that several of d'Orbigny's specimens had been described and figured by later authors, notably by M. Boule.

The opinion expressed by Mr. W. C. Mendenhall and many paleontologists of the United States Geological Survey and the United States National Museum is not perfectly clear. It says that those of d'Orbigny's species " that have been or can be identified should be accepted as valid." This may mean either identified on the basis of d'Orbigny's diagnosis or identified by reference to the type material. The distinction is important, as will appear further in the discussion of Dr. Richter's letter.

Dr. Richter is the only colleague who defends his position by relevant argument.

1. He maintains that, according to Article 25, a species name is validated by a description. Now Article 25 does not say this. It says that a name cannot be valid unless " accompanied by an indication, or a definition, or a description." " Ueber die Qualität oder Quantität der Beschreibung werden keine Vorschriften gemacht " (Richter). Opinion 52, cited by Richter, says " It is not feasible for the Commission to issue an opinion upon the question: What constitutes an adequate description? "

All that follows from this is that a name accompanied by a description should be considered, but whether the description is sufficient to validate the name is a question to be decided by the reviser. " It is ", to quote the discussion of Opinion 52, " entirely a zoological not a nomenclatorial question."

Opinion 52 has, however, a direct bearing on d'Orbigny's " Prodrôme ", because it states that the type locality " is to be considered as an important element in determining the identity of species." If in this we intercalate the words " and/or type horizon " we have a restatement of the principles on which d'Orbigny worked, as fully explained in the introduction to the " Prodrôme."

2. Richter says very truly that a diagnosis which would be inadequate to-day may have been adequate when it was drawn up. This is a view that I have urged repeatedly. But it does not follow that the diagnosis *was* adequate.

On the assumption that a diagnosis even today may be inadequate, Richter concludes that examination of the holotype is essential. I should not like to say anything that would seem to suggest the contrary. " An jeden Typus hängt der Artname unabänderlich ", is a principle that cannot be urged too strongly; but it must not be taken to relieve authors from the necessity for drawing up adequate diagno-

ses. Some diagnoses have been unintelligible to the author's contemporaries, and have been proved by subsequent reference to the type specimens to be misleading and even incorrect.

The object of a definition or diagnosis is to furnish contemporary fellow-workers with the characters by which they can distinguish the species from others already known or diagnosed at the same time. It is not (as is a description) intended to furnish evidence by which the species may possibly be distinguished from all others hereafter to be discovered. It is when extension and precision of the original diagnosis are necessitated by further discoveries that recourse to the holotype is incumbent on the reviser. If contemporaries could not understand a definition apart from the holotype, it is surely plain that the definition was inadequate from the outset. Since there always was and must be type material of some kind, the logical consequence of inclusion of the holotype itself within the definition would be to deprive the rest of the definition of any significance. One need say no more than: "A charming species, rather large, Holotype: Nat. Mus. Ruritaniae, No. X999."

Dr. Richter supports his thesis by an appeal to the "subjectivity" involved in any interpretation of the diagnosis. A bad diagnosis undoubtedly opens the door to subjectivity; but a diagnosis is good in so far as it eliminates subjectivity. After all there may be as much subjectivity in the interpretation of a holotype (especially if it be an obscure fossil) as in the reading of a diagnosis. (See next Section, argument No. 6.)

The arguments in favor of the proposal are contained to some extent in the original application (C. and A.), but still more in letters subsequently received from Mr. Cox (C.) and Mr. Arkell (A.). They are:

1. The comments of d'Orbigny are inadequate as specific diagnoses (C. and A.).
2. D'Orbigny's species have been misinterpreted by later authors, or have been ignored and described under other names (C. and A.).
3. The names, whether d'Orbigny's or new, used by later authors are familiar and current, and it would breed confusion to disturb them (C. and A. and A., who gives many examples).
4. D'Orbigny was a competent describer, not to be compared with writers 50 years before him. and he himself says that it is not his intention to describe the new species in the "Prodrome"; he would have described them later in the "Paléontologie Française" (C.).
5. Reference to a type specimen should not be a permissible substitute for an intelligible definition (C.).

6. To retain or reject a species according as the type specimen is considered satisfactory or not is to introduce personal opinion (A.).

7. In some cases, as admitted by Boule, and as testified by Arkell, d'Orbigny's type specimens are not satisfactory.

8. D'Orbigny's names were often fantastic and given without thought.

On the preceding arguments, the following comments may be made:

1, 2, and 4. Undoubtedly d'Orbigny did not intend his remarks as "descriptions," but it is not so sure that he did not intend them as provisional diagnoses, sufficiently clear to enable the species to be identified. Whatever his intentions may have been, the fact is that he fulfilled the requirements of the Code.

The question of confusion does not necessarily depend on the inadequacy of the "Prodrome" diagnoses; still the applicants make that so large a part of their argument that the justice of the charge must be considered. It has been pointed out that the adequacy of a definition must be decided with regard to the knowledge of the time, and the applicants attempt to show that contemporaries could not understand the "Prodrome" diagnoses. Their examples are all drawn from the Oolitic Mollusca and from Morris and Lycett. Even were they justified in this regard, it does not follow that other groups and other specialists were in similar case. I have therefore looked into some of the echinoderm species, as well as into the molluscan.

First, it does not appear what steps Morris and Lycett took to understand the "Prodrome." D'Orbigny lays great stress in his introduction on horizon and locality, and it has already been decided by the Commission that such details when given are to be taken into account. Did Morris and Lycett attempt this? In nearly every case where they adopt one of d'Orbigny's new names, they do so without comment; only under *Opis pulchella* d'Orb. do they indicate that they have made the necessary comparison, and they say: "The experience derived from a multitude of examples leaves no room to doubt that . . . *d'Orbigny* has correctly indicated its distinctive characters in the brief sentence above quoted."

Morris and Lycett took over d'Orbigny's names in enough instances to show that they did not regard his diagnoses as inadequate; they did not, so far as I can see, express any opinion on the matter. There is no evidence, except that just quoted, that they ever troubled to examine specimens from the type locality.

The evidence bearing on the new echinoderm species of the "Prodrome" is far more satisfactory.

For the echinoids we have Desor's "Synopsis", which appeared within a few years and obviously considered d'Orbigny's names. Some were accepted without comment, some were accepted on evidence of specimens, some were adversely criticised, and some were passed over in silence presumably as inadequately defined. Thus: *Diadema subcomplanatum* d'Orb., p. 319, *416, is accepted. Wright also accepts this and mentions specimens. *Hemicidariscus luciensis* d'Orb., p. 320, *422 is accepted after examination of specimens from Luc. Wright also accepted this. *Diadema calloviensis* d'Orb., p. 346, is accepted, but apparently on the evidence of a paratype. *Diadema Jobac* d'Orb., p. 290, *513. "Espèce voisine du *D. subangulare*, mais avec les tubercules intermédiaires tout autrement disposés". Desor ("Synopsis", p. 17) says with justice "la diagnose ci-dessus ne suffit pas pour identifier une espèce." Finally *Cidariscus jarbus*, *C. jasius*, and *C. itys* d'Orb., p. 222, are not mentioned in the "Synopsis", perhaps because they were based only on radioles; the definitions seem to me adequate. *Holactypus corallinus* d'Orb., vol. 2, p. 26, was accepted by Desor and by Cotteau (1854). Cotteau also (1854) found no difficulty in identifying d'Orbigny's *Dysaster suprajurcensis* in the field, although he did not regard it as distinct.

Turning to the Crinoidea we find De Loriol in "Paléontologie Française" exercising a similar discrimination, accepting or rejecting. His approach to the "Prodrome" differs from that of the echinoid specialists mentioned because he had the type material before him. He refrains none-the-less from accepting a name merely because he can identify the holotype. He accepts *Cyclocrinus precatorius* (vol. 1, p. 320) and *Millericrinus rotiformis* (vol. 1, p. 346) without criticising d'Orbigny's definitions. Of *Millericrinus bachelieri* (vol. 1, p. 346) he says: "la diagnose n'est pas compréhensible", and the material in the d'Orbigny Collection does not enable him to interpret the species. There are seven specimens in the collection labelled *Millericrinus pulchellus* from the type locality "dont quatre seulement correspondent à la description du Prodrome" (vol. 1, p. 346), from which statement one infers that the holotype is not always so easily ascertained as Professor Boule implies.

Several species are described by De Loriol from the type material and he adopts d'Orbigny's names, although he either asserts or implies that the "Prodrome" definition was inadequate or misleading. See for instance his remarks on *Pentacrinus oceani*, *P. marcousanus*, *Millericrinus convexus*, and *Pentacrinus buvignieri*, which last he makes a synonym of *P. nicoleti* Desor, solely on the evidence of types of both

authors. In such cases it seems to me that the names should be quoted as "de Loriol ex d'Orb.", for there is nothing in Article 35 to prevent a name being used for the *same* species.

In the following instances De Loriol's remarks may be quoted more fully because they bear directly on the point at issue.

"Prodrome", vol. 1, p. 241, *248 *Pentacrinus liasinus* d'Orb., 1847. Espèce voisine du *pentangularis*, mais plus grêle encore et plus uniformément lisse [3 locc. are given].

There is no such name as *P. pentangularis* in d'Orbigny; perhaps *P. pentagonalis* is meant. If so, d'Orbigny is comparing Liassic and Oxfordian, a procedure which he criticises in the Introduction. De Loriol, on examining the syntypes of *P. liasinus*, rejects the name, as well as *P. cylindricus* Desor *nom. nud.*, in favor of the later *P. subteroides* Quenstedt, because the latter is "le seul réellement connu dans la science, puisque le premier ne l'est que par une simple mention, et le second par une phrase du 'Prodrome,' qui n'est pas même exact."

"Prodrome", vol. 1, p. 321, *?433 *Pentacrinus nodotianus* d'Orb., 1847. Espèce voisine du *P. briareus*, mais ayant ses verticilles moins comprimés.

De Loriol ("Paléontologie Française", 420 sqq.) explains how he was quite at a loss to interpret this until he discovered the type, which belonged to *P. dargniesi* Terquem and Jourdy, 1869. His concluding remarks put the case clearly:

Maintenant quel nom lui donner? Celui de d'Orbigny a la priorité d'années, mais, en vérité, il est impossible de prétendre que la simple mention du "Prodrome", que j'ai citée, et qui, encore, n'est pas exacte, soit suffisante pour dire que l'espèce a été publiée par d'Orbigny *antérieurement* à MM. Terquem et Jourdy. Ce sont ces derniers qui, par une description et de bonnes figures, ont réellement fait connaître l'espèce, dont personne, d'après la phrase de d'Orbigny, ne pouvait avoir la moindre idée, sauf que c'était un *Extracrinus*. Je crois donc que le nom de *P. nodotianus* doit être définitivement abandonné, parce qu'il était impossible de savoir quelle espèce il représentait, et que, in réalité, avant MM. Terquem et Jourdy, l'espèce n'avait pas été publiée.

With these remarks of De Loriol I entirely agree.

To sum up these enquiries into the adequacy of the "Prodrome" diagnoses.—It appears that, while some are clearly inadequate, others have been found adequate by specialists who took all the facts into consideration. In this respect the "Prodrome" does not seem to me worse than many works which have always been accepted. Among relevant facts I do not include the existence of a type specimen; at the same time it may be pointed out that, although d'Orbigny indicates by an asterisk the existence of specimens in his collection, he nowhere

fixes on any specimen or specimens as holotype or syntypes. In fixing the holotype it is no doubt advisable to regard the locality and, if the specimens therefrom are individually listed, to select the first on the list as holotype. The holotype as thus fixed may confirm the interpretation of the diagnosis, or, as Professor Boule and others have shown, it may be equally unintelligible; or again, the diagnosis may be quite clear and may correspond with specimens from the type locality although the lectotype happens to be obscure.

The adequacy of the "Prodrome" diagnoses is not to be judged by their length, for a single epithet may be sufficient. Nor can the names employed have any bearing on the question, especially as d'Orbigny (Introduction, § 66) insists that names which have no meaning are often the best.

Thus examination of the "Prodrome" leads to the conclusion that it is possible to consider each of the new species on its own merits and to accept as valid those that have been or can be identified.

The plea of the applicants is that such a course would lead to confusion, and Mr. Arkell in his letter gives a respectable number of instances in which familiar names would have to go. It does not appear that there is or would be any particular difficulty in echinoderms. My colleagues in the Geological Department of the British Museum take essentially the same view in regard to corals, Polyzoa, and brachiopods.

In these circumstances it seems out of the question for the Commission to sweep away all the names proposed for new species in the "Prodrome." It is by no means certain that such action would not produce a converse state of confusion in some groups.

The chief difficulty, or at any rate the most annoying change involved by following the Rules, seems to be that exemplified by *Trigonia cassiope* and *Myoconcha actaeon*. Here it is generally admitted that d'Orbigny's diagnoses are inadequate (even the type specimens do not elucidate them). Yet it seems to be thought necessary to reject the *T. cassiope* and *M. actaeon* of Morris and Lycett as homonyms of d'Orbigny's species. This conclusion does not appear to be necessitated by the rules. I have already maintained that a name cannot be a homonym when given to the *same* species. But can it be said (in the words of Article 35) that *T. cassiope* d'Orb. was used for some other species than *T. cassiope* M. and L.? *Ex hypothesi* it cannot. If it were proved that *T. cassiope* d'Orb. did represent a distinct species, then that name would stand, but it has not been proved, and, one gathers, cannot be proved. Morris and Lycett were not founding

a new species; they believed that their specimens belonged to d'Orbigny's species. If the contrary cannot be proved, surely the name may be left.

Many of the difficulties arising out of the "Prodrome" and similar works would be largely smoothed away if the Commission could agree to the following:

A name that rests on a diagnosis unintelligible in itself and not explained by the type material, shall not prevent the use of the same name for a species from the same locality and horizon, when subsequently diagnosed in proper form.

To meet the undoubted difficulties I have endeavored to frame an Opinion that would be of general application, but without success. I therefore submit the following for the approval of the Commission.

Opinion.—There are no grounds for treating d'Orbigny's "Prodrome" differently from other works containing preliminary diagnoses. In all such cases the decision whether a diagnosis is adequate or no must be made by the systematist and not by the Commission.

If the diagnosis is held to be adequate, the ordinary rules regarding priority and homonyms apply.

If the diagnosis is held to be inadequate, the publication of the name will not prevent any author from subsequent description and establishment under the same name of the same species (as recognised from the holotype, if any); further, if the holotype be wanting or undecipherable, subsequent description and establishment under the same name of a species from the same locality and horizon is permissible. In both these cases the date for purposes of priority shall be the later date, and if the later author (say Brown) is not the same as the earlier author (say Green) then the name shall be quoted as "Brown ex Green". If, however, the holotype attached from the beginning to the earlier use of the name with inadequate diagnosis be clearly of a different species from the holotype attached to the later use, then the later use is a homonym as defined by Article 35 and is to be rejected.

On the question of generic names, also raised by the applicants, Dr. Adensamer considers that a genus if properly diagnosed will be valid although the species referred to it may be suppressed as *nomina nuda*.

This seems rather a contradiction in terms.

If there is only one species, the diagnostic features of the genus, which *ex hypothesi* are adequate, will also distinguish the species. If neither they nor the characters of the species are adequate, then both genus and species must fall. (Cf. Opinion 43.)

If there be more than one species, one of them either was, or must now be, selected as genoholotype. That will then be distinguished from all species previously known by the diagnostic characters of the genus. The names of the remaining species may be treated as synonyms of the genoholotype, or as *nomina nuda*.

Opinion prepared by Bather.

Opinion concurred in by fourteen (14) Commissioners: Bather, Cabrera, Dabbene, Handlirsch, Horvath, Ishikawa, Jordan (K.), Pellegri, Richter, Silvestri, Stejneger, Stephenson, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, five (5) Commissioners: Apstein, Bolivar, Chapman, Jordan (D. S.), Warren.

Stone adds:

I agree with paragraphs 1 and 2 of the Opinion but paragraph 3 is so far reaching that it should be definitely embodied in the Rules rather than be considered in an Opinion on a single case.

I agree that a genus based upon *nomina nuda* has no standing.

Richter adds:

Ich stimme der Opinion zu, jedoch mit Ausnahme des Absatzes 3, dem ich nachdrücklich widerspreche. "If the diagnosis is held to be inadequate", ist eine Frage, die mehr als andere der Subjektivität unterworfen ist. Es ist daher nicht nur eine unnötige Neuerung, sondern sogar ein gefährlicher Anreiz, einem Autor zu erlauben, seine Autorschaft mit einem älteren Namen zu verbinden, weil dessen ursprüngliche Diagnose "nicht ausreichend" sei. Der bisher in Zoologie und Paläozoologie übliche Gebrauch, Autorschaft und Prioritätsdatum bei der ursprünglichen Veröffentlichung zu belassen und den Autor der späteren Diagnose nur in zweiter Linie zu nennen, hat seine guten Gründe und sollte nicht geändert werden. Beispiel: *X-us albus* Green, 1900; emend. Brown 1920. Denn: lässt Green's Diagnose die Möglichkeit zu, dass *albus* Brown damit identisch ist, so besteht kein Grund, diese Identität zu bezweifeln. Solange diese Identität aber nicht bezweifelt wird, ist *albus* Brown sowohl als Homonym wie als Synonym von *albus* Green zu betrachten.

Ich bin mit einem Absatz der Opinion gar nicht einverstanden, nämlich mit der Erlaubnis, zu zitieren "Brown ex Green", wobei das Datum der Priorität dem späteren Autor zugesprochen werden soll. Ich würde es sehr begrüßen, wenn dieser Absatz aus der Opinion entfernt werden könnte. Im übrigen ist Bather's Discussion von wundervoller Klarheit. Aber in jenem Satz scheint mir die Commission nicht nach der Konsequenz ihrer eigenen Grundsätze zu handeln.

Stiles adds:

It would be well to consider whether the difference of opinion as expressed by Bather and by Richter is not settled by Art. 24 concerning division and restriction of a species.

OPINION 127

SUSPENSION OF RULES FOR *Lepidocyclina* GÜMBEL, 1868, TYPE
Nummulites mantelli

SUMMARY.—Complying with expert advice from specialists in the group involved, the Commission herewith Suspends the Rules and places *Lepidocyclina* Gümbel, 1868, type *Nummulites mantelli*, in the Official List of Generic Names, with *Cyclosiphon* Ehrenberg, 1856, type *Nummulites mantelli*, as objective synonym. The consultants agree, almost unanimously, that to apply the Rules in this case would produce greater confusion than uniformity.

STATEMENT OF CASE.—Commissioner Chapman of Melbourne, Australia, recommends that the Rules be suspended in the case of *Lepidocyclina*, 1868, vs. *Cyclosiphon*, 1856.

DISCUSSION.—According to the evidence verified by the Secretary the nomenclatorial premises in the case of *Cyclosiphon*, 1856, versus *Lepidocyclina*, 1868, are very clear.

Cyclosiphon Ehrenberg, 1856, Ueber den Grünsand, K. Akad. Wiss., Berlin Abhandl., für 1855, p. 145, is monotypic, being based solely upon *Nummulites mantelli*.

Lepidocyclina Gümbel, 1868, Beiträge zur Foraminiferenfauna der nordalpinen Eocäugebilde, K. bay. Akad. Wiss., m.-p., Cl. Bd. 10, no. 2, pp. 689 and 717, was originally published as a subgenus of *Orbitoides* and contained three species, i. e., *L. mantelli* Morton, *L. dilatata* Michelotti, and *L. burdigalensis* Gümbel. No type species was designated, indicated or intimated, directly or indirectly.

Douvillé, 1898, Bull. Soc. Géol. France, ser. 3, vol. 26, p. 594, definitely designated *Nummulites mantelli* as genotype, as correctly stated by Galloway, 1928, Journ. Paleontol., vol. 2, p. 65, and as accepted by Vaughan, 1929, p. 29.

As both generic names are based upon the same type species they are objective synonyms regardless of any subjective interpretation in respect to their structure (we name objects, not our conception of those objects). On this account Galloway, 1928, pp. 40-64, logically accepted *Cyclosiphon* in preference to *Lepidocyclina*.

The Commission is now requested to suspend the rules and to validate *Lepidocyclina* in place of *Cyclosiphon*.

On account of the general adoption of *Lepidocyclina* and its importance in paleontology the Secretary has referred this case to various

specialists for expression of opinion, and in reply has received the following:

J. A. Cushman reports:

I have little to add to the debate on these two names [*Lepidocyclus* and *Cyclosiphon*]. I should try to be consistent and use *Cyclosiphon*, but as noted in Vaughan's paper here appended, it is a very great doubt as to what was meant by Ehrenberg, and his types are certainly not at all helpful. On account of the very great uncertainty, I would advocate the retention of the name *Lepidocyclus* in this case.

When in Berlin in 1927 I examined the material of *Cyclosiphon* in the Ehrenberg collection there and found it to consist of various things, mostly glauconitic casts, a considerable portion of which did not even belong to the family Orbitoididae. Of the material which could be referred to an orbitoid none was of sufficient completeness even to be specifically identifiable.

Evidently Ehrenberg from his description of *Cyclosiphon* had not seen the *Nummulites mantelli* which he referred to as his generic description would exclude that species from the genus *Cyclosiphon*.

It seems to me very clear from the evidence that no good purpose would result from trying to revive the name *Cyclosiphon* with all the attendant confusion that would necessarily arise. I, therefore, urge most strongly the retention of the name *Lepidocyclus* with *Nummulites mantelli* as the type species of both the genus and the typical subgenus.

T. W. Vaughan, "A Note on the Names *Cyclosiphon* Ehrenberg, 1856, and *Lepidocyclus* Gümbel, 1868", Journ. Paleontol., vol. 3, no. 1, March 1929, pp. 28-29, reviews the case of *Lepidocyclus* and concludes that:

Because of confusion surrounding *Cyclosiphon*, it appears to me undesirable, even unfortunate, to revive that name, and it seems that the use of the name *Lepidocyclus*, with *Nummulites mantelli* as the type-species of both the genus and the typical subgenus, should be continued.

Letter from Dr. George Otis Smith, Director of the U. S. Geological Survey, Washington, D. C.:

The proposition for suspension of the Rules in zoological nomenclature for the purpose of retaining the two generic names *Lepidocyclus* and *Nummulites* has been considered by all of the Geological Survey paleontologists now in Washington whose work involves the use of zoological names. While the workers of this group subscribe to the rule of priority for general use they are unanimous in their recommendation that the rule should be suspended in its application to the two names above mentioned so that they may be continued in use.

The signed statements of the several paleontologists are attached.

Letters from Survey paleontologists:

In the case of a generic name which has been in long and general usage there seems nothing to be lost and much to be gained by retaining it, even though some one may discover that an older, practically unknown name has priority over it.

I therefore recommend that *Nummulites* and *Lepidocyclina* be given validity by the International Commission. I feel, however, that exceptions should be made only in extreme cases such as the ones here presented.

Signed: L. W. Stephenson.

"I concur in the above statement." T. W. Stanton.

"Concur." Edwin Kirk, C. Wythe Cooke, W. C. Mansfield, Chas. Butts.

"Agreed, both as to making exceptions only in extreme cases and as applied here to *Nummulites* and *Lepidocyclina*." George H. Girty.

I believe that the substitution of *Camerina*, almost entirely unused and unknown, for *Nummulites*, extensively used for over a century, is a useless bit of hair-splitting legal procedure. It will lead to more confusion than clarity. Much the same is true with respect to *Cyclosiphon* and *Lepidocyclina*. I can see no profit whatever in going back into the literature of the dim past to dig up names that have only the legal show of validity and using them to replace widely used and well understood terms [irrelevant personal opinion-C. W. S.]. Let us keep *Nummulites* and *Lepidocyclina*.

Signed: John B. Reeside, Jr., Jan. 25, 1920.

"I agree with the above statement." P. V. Roundy, Feb. 5, 1920.

"Amen and again Amen." Chas. Butts.

In cases in which the confusion arising from the resurrection of an older name is obviously to the disadvantage of the science [relevant testimony-C. W. S.], especially as in the cases under consideration in which no good save the restoration of questionably earned rights to Ehrenberg and Bruguière appear to offset the ill it would do the science, I am opposed to replacing a well known and generally used name by an older one that never attained common usage. Therefore I am in favor of retaining *Lepidocyclina* and *Nummulites*.

Signed: E. O. Ulrich, Jan. 20, 1920.

Letter from Edward Willard Berry, of the Johns Hopkins University, Baltimore, U. S. A.:

I understand that there is pending before the International Commission on Zoological Nomenclature the decision whether to retain the generic use of *Nummulites* and *Lepidocyclina*. I wish to go on record as being in favor of retaining these two genera in the Classification.

The following are expressions of opinion from Australian specialists:

Prof. Walter Howchin, F. G. S.:

I am heartily in accord with you for the retention of the generic names *Nummulites* and *Lepidocyclina*. These names have become so thoroughly incorporated in the literature of the Foraminifera that their substitution would involve serious inconvenience and confusion, priority notwithstanding. I hope that the exceptions you suggest will be agreed to.

W. J. Parr, F. R. M. S.:

I think that the genera *Nummulites* Lamarck and *Lepidocyclina* Gumbel should be retained as *nomina conservanda* in place of the earlier *Camerina* Bruguière and *Cyclosiphon* Ehrenberg.

I am generally opposed to the Suspension of the Rules, but unlike the other foraminifera genera which have been superseded recently, *Lepidocyclina* and *Nummulites* have been much used in general geological literature and a change to the older genera would certainly lead to much confusion which it is desirable to avoid.

Robert A. Keble, F. G. S. Paleontologist :

I am in thorough agreement with the retention of *Nummulites* and *Lepidocyclina*. By doing so the literature becomes intelligible at a glance and unconfused by the rules of nomenclature. Expressed in terms of time saved, such [word omitted] has a true economic value; confusion and uncertainty must obviously accompany a reversion to the strict order of priority.

There remains, then, the question of sentiment. Bruguère and Ehrenberg, the aggrieved authorities, have long passed away, but there is no question of depriving them of their priority. These unselfish pioneers would not have condoned for a moment the waste of time and confusion that would ensue in establishing their presumed right of priority.

Miss Irene Crespin, Paleontologist :

As far as the two genera, *Nummulites* and *Lepidocyclina*, are concerned, I would emphatically support the retention of these names by a suspension of the Rules.

A. C. Collins, student of the Victorian Tertiary Foraminifera :

I should like to express my personal opinion that the generic names *Lepidocyclina* Gümbel and *Nummulites* Lamarck should be retained in preference to earlier names. As these names are so widely used in stratigraphic references, their alteration would, I think, create confusion amongst nonspecialists in the group, and I see no useful purpose to be served [in these cases] by the rigid application of the rules of nomenclature.

Frederick A. Singleton, M. Sc. :

My formal opinion concerning *Nummulites* and *Lepidocyclina* is that both should be placed on the official list of *nomina conservanda*, and it is impossible to reject one and not the other, *Cyclosiphon* having stronger claims than *Camerina*.

The case was submitted to the Commission for informal ballot. The resulting vote stood six (6) for Suspension, four (4) for enforcement of the Rules.

With his informal [affirmative] vote Commissioner Bather transmits the note :

Professor A. Morley Davies, Mr. Heron-Allen, Dr. H. Dighton Thomas, and Mr. A. Wrigley advocate the suspension of the Rules in favor of *Lepidocyclina*. Mr. C. P. Chatwin, on the contrary side, writes: "The question is: do we know what Ehrenberg meant by '*= Nummulites mantelli*'? In my opinion we do." In my opinion, from the evidence of Vaughan and Cushman, we do not. That is just the point in dispute. I may remark that C. D. Sherborn, 1893, "Index

to Foraminifera", quotes "*Cyclosiphon*? Ehrenberg., Abhandl. K. Akad. Wiss. Berlin, 1855, p. 168", and adds "*Orbitoides* fragment, referred elsewhere by Ehrenberg to *O. mantelli*." Obviously this high authority on foraminifera, bibliography, and nomenclature hesitated to accept *Cyclosiphon*.

From a strictly nomenclatural standpoint I agree with the Secretary that this uncertainty has no bearing on the incidence of the Rules; but this only shows how ridiculous adherence to the letter of the law may sometimes be.

It is not clear to me what confusion would be caused by substituting *Cyclosiphon* for *Lepidocyclina*, but I gather that the latter name has long been in general use, whereas no one seems to have used *Cyclosiphon* between Ehrenberg (1856) and Galloway (1928). It is not in the Nomenclators of Bronn, Scudder, or Waterhouse.

With his informal [negative] vote Commissioner Stone sends the statement:

The privilege of asking for a Suspension of the Rules is in danger of being abused. I should advocate it *only* in cases (1) that are so involved that various interpretations are possible or (2) that seriously affect fields and activities outside of pure zoological nomenclature. With too much leniency our whole system will become utterly inconsistent.

The Secretary has corresponded with the following persons, also, who are interested in this case and who approve of a Suspension of the Rules. Most of these workers have read the Summary of this Opinion and have subscribed to it:

R. Wright Barker, Tampico, Mexico; W. S. Cole, Columbus, O.; J. A. Cushman, Sharon, Mass.; A. M. Davies, London; S. Hanzawa, Sendai, Japan; L. G. Heubest, Washington, D. C.; H. K. Hodson, Caripito, Mexico; W. L. F. Nuttall, Cambridge, England; D. K. Palmer, Matanzas, Cuba; H. J. Plummer, Austin, Tex.; G. M. Ponton, Tallahassee, Fla.; L. Ritter, Utrecht, Holland; A. Silvestri, Milan, Italy; G. Stefanini, Pisa, Italy; J. H. F. Umbgrove, Delft, Holland; I. M. van der Vlerk, Leiden, Holland; G. L. Whipple, Puerto Mexico, Mexico; H. Yabe, Sendai, Japan.

The Secretary invites attention to the facts: (1) that the specialists consulted are agreed upon the advisability of Suspension in this case; (2) the case involves geological record, i. e., a coordinate branch of science, and zoologists should be doubly conservative in arriving at conclusions on cases of this type which may have important economic bearings and which have become thoroughly established in paleontological and geological literature.

In view of the foregoing data the Secretary recommends that the Summary given above be adopted as the Opinion of the Commission.

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Cabrera, Chapman, Fautham, Horvath, Ishikawa, Jordan, Pellegrin, Silvestri, Stejneger, Stiles, Stone, Peters.

Opinion dissented from by no Commissioner.

Not voting: Bolivar, Handlirsch, Richter.

Note: In the case of *Nummulites* eight (8) Commissioners (Apstein, Bather, Chapman, Horvath, Ishikawa, Pellegrin, Silvestri, and Stiles) voted for suspension; four (4) Commissioners (Cabrera, Jordan, Stephenson, and Stone) voted against suspension; not voting, five (5) Commissioners (Bolivar, Handlirsch, Richter, Stejneger, and Warren). Accordingly this case is tabled until the next meeting of the Commission.

OPINION 128

Nycteribia, 1796, PUPIPARA, AND *Spinturnix*, 1826, ACARINE

SUMMARY.—Under Suspension of the Rules *Nycteribia* Latreille, 1796, with *pedicularia* Latreille, 1805, as type, and *Spinturnix* von Heyden, 1826, with *myoti* Kolenati, 1856, as type, are hereby placed in the Official List of Generic Names.

The specific name *vespertilionis* of all authors is hereby invalidated for the following generic names: *Acarus*, *Acrocholidia*, *Celeripes*, *Dermanyssus*, *Diplostaspis*, *Gamasus*, *Hippobosca*, *Ichoronyssus*, *Liponyssus*, *Listropoda*, *Megistopoda*, *Nycteribia*, *Pediculus*, *Penicillidia*, *Periglischrus*, *Phthiridium*, *Pteroptus*, *Sarcoptes*, *Spinturnix*, *Strebla*, on the ground that the application of the Rules would produce greater confusion than uniformity.

PRESENTATION OF CASE.—Prof. J. M. Aldrich, United States National Museum, has submitted the following case for consideration:

Latreille proposed the genus *Nycteribia* in "Précis des caractères génériques des Insectes", 1796, p. 176, mentioning only *Pediculus vespertilionis* Linn. In his "Histoire naturelle des Crustacés et des Insectes", vol. 14, p. 403, 1805, he again briefly describes the genus, and gives a partial description of *Nycteribia pedicularia*, new species, which he figures on pl. 112, fig. 14. He places *Pediculus vespertilionis* L. under *pedicularia*, apparently as a synonym.

Now it is a fact mentioned by Speiser, "Ueber die Nycteribiiden", Königsberg, 1901, p. 2, that *Pediculus vespertilionis* L., 1758, is an acarid, and not a nycteribiid in the usual sense of the term.

Latreille in 1796 evidently did not know what *vespertilionis* L. was, since his reference to long tarsi indicates a nycteribiid in the usual sense. His second reference, however, is accompanied by a figure which makes the intention clear.

Up to the present time *Nycteribia* has universally been accepted as a genus of Diptera, suborder Pupipara, and there has been no attempt within a hundred years, as far as I know, to "correct" the nomenclature by transferring the genus to the Acarini. Hence no confusion will arise if the Commission of Nomenclature shall decide upon a Suspension of the Rules in this case, and shall designate *vespertilionis* Latr. 1796 (non Linn.; *pedicularia* Latr. 1805) as type of *Nycteribia*. I request that this be done.

DISCUSSION.—This is probably the most confused case of nomenclature which has ever been submitted to the Commission for study and Opinion, and as such it calls for radical action in order to prevent further confusion.

At the request of the Secretary and under his personal supervision this case has been very carefully studied by one of his assistants, Benjamin J. Collins, M. S., who has summarized the results of his study in Bulletin 155, National Institute of Health, United States Public

Health Service, pp. 743-765, figs. 1-11, 1931. This printed article, a copy of which is mailed to each Commissioner, is hereby included as a portion of the Discussion.

The chief points at issue are the following :

1. *Pediculus vespertilionis* Linn., 1758a, 611, was described as a hexapod, namely, genus *Pediculus*, but the most definite part of the original is the inclusion of a bibliographic citation of an illustration or figure of the "Fledermauss-Lauss" of Frisch, 1728; this illustration is clearly that of an octopod. It seems highly probable that Linnaeus actually had in mind a hexapod in addition to this octopod of Frisch, and for purposes of nomenclatorial argument this is adopted as premise.

2. Scopoli, 1763, interpreted *Pediculus vespertilionis* as an octopod and transferred the species to *Acarus*. This view was adopted by Linnaeus, 1767.

3. Latreille, 1796, proposed a hexapod genus *Nycteribia*, with monotype "*Acarus vespertilionis* Linn. Fab. *Pediculus* Linn." In 1805 Latreille proposed for *Nycteribia vespertilionis* a new specific name, *Nycteribia pedicularia*, thus accepting the premise that Latreille's 1796 specimens of *Nycteribia* belonged to the Insecta, *sensu restricto*. The species *pedicularia* is objective synonym of the hexapod *vespertilionis* as of Latreille, 1796.

In 1826 von Heyden proposed *Spinturnix* as a new genus in the Acarines, with type by original designation "*Acarus vespertilionis* Scop. (non Lin.)", i. e., *vespertilionis* Linn. of Scopoli as restricted to the acarines in 1763, not the hexapod *vespertilionis* Linn. as of Latr., 1796a, which under Art. 31, International Rules, is a dead name.

Nycteribia vespertilionis remained with the insects for more than a century, but in 1902 Oudemans transferred *Pediculus vespertilionis* (namely the type species of *Nycteribia*) to *Spinturnix* (an acarine).

4. Under a strict interpretation of the Rules as applied to the foregoing premises the insect genus *Nycteribia* is based on an erroneously determined species, since *vespertilionis*, a compound species of 1758, was definitely assigned to the Acarines in 1763.

The question now arises whether *Nycteribia* should not be transferred to the Acarines, since its type species (*vespertilionis*) is an Acarine, or whether *Nycteribia* should be left in the insects on the ground that Latreille's specimens were insects. This brings up a controversial point which has produced great confusion in zoology and which is open to different interpretations. The most practical method of settling these cases is by Suspension of the Rules, the decision in each case being made upon the merits of the individual case.

From 1796 down to date the specific name *vespertilionis* combined with *Spinturnix*, *Nycteribia*, and allied generic names presents such extreme confusion in synonymy that tables of subjective synonyms are difficult to understand.

5. We have before us a practical problem to settle. If attempts be made to work this case out on theoretical grounds an agreement is hopeless. The only practical solution the Secretary sees is to settle the case under Suspension of the Rules, holding in mind the preservation of that portion of the nomenclature which is practically universally accepted and eliminating from all further consideration that portion which is hopelessly confused in subjective interpretations.

The proof sheets of Mr. Collins' study were laid before the International Commission in its meeting in Padua, and the Commission adopted the following in the minutes of its meeting for August 30, 1930:

The case of *Nycteribia* vs. *Spinturnix* was discussed on basis of galley proof by Collins (Washington) and the Secretary was instructed to prepare an Opinion in favor of Suspension of the Rules.

In harmony with the foregoing instructions from the Commission the Secretary submits this Opinion and recommends the adoption of the Summary given above as the Opinion of the Commission.

Opinion prepared by Stiles.

Opinion concurred in by eleven (11) Commissioners: Apstein, Bather, Cabrera, Chapman, Horvath, Ishikawa, K. Jordan, Silvestri, Stephenson, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, seven (7) Commissioners: Bolivar, Handlirsch, D. S. Jordan, Pellegrin, Richter, Stejneger, Warren.

OPINION 129

Bipinnaria 1835 vs. *Luidia* 1839

SUMMARY.—The rules are herewith suspended in the case of *Bipinnaria* 1835 vs. *Luidia* 1839, on the ground that "the strict application of the Règles will clearly result in greater confusion than uniformity." *Luidia* Forbes, 1839, with monotype *fragilissima* 1839 (subjective synonym of *Luidia ciliaris* 1837), is hereby placed in the Official List of Generic Names. The names *Auricularia*, *Bipinnaria*, *Brachiolaria*, and *Pluteus* are hereby excluded from availability as generic names and are reserved as designations of developmental stages.

STATEMENT OF CASE.—Mortensen submits his argument in "Annals and Magazine of Natural History", vol. 10, pp. 350-351, Oct. 1932, and his presentation is herewith made a part of this Opinion.

DISCUSSION.—Article 37*b*, quoted by Dr. Mortensen, has an interesting history.

The original draft of the International Rules provided an exception to the Law of Priority for certain animals undergoing metamorphoses and change of host, and this exception was included in the rules as adopted by the Moscow Congress in 1892. This same provision was retained in the draft prepared for the Cambridge Congress in 1897. In the 1901 Meeting in Berlin, Commissioners Blanchard and Stiles argued for the retention of this exception, but were overwhelmingly defeated in the final vote and they conceded the point for the sake of harmony.

The parasitic worms, particularly Trematoda and Cestoda, were the first groups to accommodate themselves to the Berlin decision in so far as generic names are concerned; although many specific names are involved, fortunately few generic names come into consideration.

The case of *Bipinnaria* vs. *Luidia* is the first one to come before the Commission for Opinion. The essential data, as made out by the Secretary on basis of Mortensen, 1932, and Sherborn's *Index* are as follows:

Bipinnaria Sars, 1835, Beskr. Bergenske, Kyst Dry, p. 37 monotype *asterigera* Sars, 1835, *ibid.*, p. 37.

Luidia Forbes, 1839, Mem. Wernerian Soc., no. 8, p. 123, monotype *fragilissima* Forbes, 1839, *idem*, p. 123.

Bipinnaria asterigera has been identified as the larval stage of, and therefore a subjective synonym of, *Luidia sarsi*.

Luidia fragilissima has been identified as a subjective synonym of *Luidia ciliaris* (Philippi, 1837, [*Asterias*]) Gray, 1840. p. 183.

Accordingly, *Luidia* 1839 becomes a subjective synonym of *Bipinnaria* 1835 and the name of the larval stage becomes the name of the genus. Further,

Luidia sarsi is an adult stage. Furthermore, *Bipinnaria asterigera* 1835, the name of a larval stage, becomes the name of the species now known as *Luidia sarsi*, since the latter is a subjective synonym of the former.

The effect is that a larval form (*asterigera*), in which various organs important for classification are not yet developed, becomes the type of a genus, in connection with which it is essential to know these undeveloped organs in order to determine the genus and to classify the species, and we have not even the benefit in this case of objective synonyms but only subjective synonyms. Accordingly, the case is much stronger than one would first assume from Dr. Mortensen's presentation.

Furthermore also, in the echinoderms are recognized various larval stages, *Auricularia*, *Bipinnaria*, *Brachiolaria*, *Pluteus*, the names of which have become current in general zoology and embryology. To grant to these names the availability as generic names is to assume the risk of confusion (to an extent which cannot possibly be foreseen) in the nomenclature of the echinoderms in systematic zoology and in geology as influenced by paleontology. Here again the case is much stronger than one might assume from a casual study of Dr. Mortensen's presentation.

The Secretary recommends that the Commission adopt as its Opinion the Summary given above.

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Fantham, Horvath, Ishikawa, Peters, K. Jordan, Richter, Silvestri, Stejneger, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, five (5) Commissioners: Bolivar, Cabrera, Handlirsch, Pellegrin, Stephenson.

OPINION 130

Lytoceras SUSS, 1865, PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—Under Suspension of the Rules *Lytoceras* Suess, 1865 (genotype, *Ammonites fimbriatus* Sowerby) is hereby placed in the Official List of Generic Names.

STATEMENT OF CASE.—The following cases have been submitted by Dr. L. F. Spath:

Ophiceras was proposed by E. Suess in June, 1865, (Anzeiger K. Akad. Wiss. Wien, p. 112) for the "fimbriati" (i. e., group of *Ammonites fimbriatus* Sowerby) but was afterwards thought to clash with *Ophioceras* Barrande (May 1865, in explanation to plates, = *Ophidioceras* Barr., in text, 1867) and was replaced later in 1865 by *Lytoceras* Suess (Sitz. B. Akad. Wiss. Wien, vol. 52, p. 78). This last has ever since been in universal use.

A second *Ophiceras* was proposed in 1880 (Griesbach, Rec. Geol. Surv. India, vol. 13, p. 109) for a Triassic group of ammonites, and (Suess' original *Ophiceras* being forgotten) it has now also become universally accepted.

The resuscitation of the original *Ophiceras* according to the Rules of Nomenclature would cause great paleontological confusion. *Lytoceras* and the family Lytoceratidae are now given in every textbook, *Lytoceras* being one of the two fundamental ammonite genera, persisting from the base of the Lias to the Upper Cretaceous. *Ophiceras*, also recorded in most textbooks, is Lower Triassic in age, so that from stratigraphical considerations, also, it would be advisable to secure stabilization of the present use of these two genera by the International Commission as follows:

Genus *Lytoceras* Suess, 1865 (genotype: *Ammonites fimbriatus* Sowerby; Min. Conchol., vol. 2, pl. 164, 1817).

Genus *Ophiceras* Griesbach, 1880 (genotype: *O. tibeticum* Griesbach, 1880, p. 109, pl. 3, fig. 4).

DISCUSSION.—These cases were referred to Commissioner Bather for special study. He reported upon them as follows:

I have gone into this case carefully and consider it to be eminently one where adherence to the rules would produce nothing but confusion. I therefore recommend as the Opinion of the Commission: That, to prevent confusion, the law of priority be suspended as regards *Lytoceras* Suess, 1865 (genotype, *Ammonites fimbriatus* Sowerby) and *Ophiceras* Griesbach, 1880 (genotype, *O. tibeticum* Griesbach) and that these two names be added to the Official List of Generic Names.

The documents in question were then submitted to Dr. B. B. Woodward, and to the following Museums: United States National Museum, Washington, D. C.; Senckenbergische Naturforschende Gesell-

schaft, Frankfurt a.M.; Zoological Museum, Berlin, Germany; Natural History Museum, Vienna; Musée nationale d'Histoire naturelle, Paris; Zoological Museum, Copenhagen; Field Museum, Chicago, U. S. A.; American Museum of Natural History, New York City, U. S. A.; and to the United States Geological Survey.

The experts consulted have reported as follows:

Paul Bartsch of the United States National Museum:

While I do not favor exceptions to the Law of Priority, this case appears to be one in which abiding by the rules would produce greater confusion than the suspending thereof. I therefore favor Doctor Bather's opinion.

W. C. Mendenhall, Geological Survey, Washington:

The proposition now before the International Commission on Zoological Nomenclature to suspend the Law of Priority in the case of two generic names of ammonites, *Lytoceras* and *Ophiceras*, has been considered by the paleontologists of the Geological Survey now in Washington who are concerned with zoological names—

C. Wythe Cooke, George H. Girty, W. C. Mansfield, J. B. Reeside, Jr., P. V. Roundy, T. W. Stanton, and L. W. Stephenson state:

That they concur in the recommendation of Dr. F. A. Bather that the two names *Lytoceras* Suess and *Ophiceras* Griesbach should be added to the list of "nomina conservanda" under suspension of the Law of Priority.

Edwin Kirk joins in this recommendation so far as *Lytoceras* is concerned but thinks that the retention of Griesbach's *Ophiceras* would be unfortunate because Suess' prior use of that name has been noted by Marshall in 1873 and by subsequent bibliographers.

R. Spärck of the Universitetets Zoologiske Museum, Copenhagen:

I absolutely recommend the proposition to suspend the Law of Priority in the case of the two above mentioned generic names. Dr. Ravn, Head of the Department of Paleontology, joins the recommendation so far as *Lytoceras* is concerned, but is of the opinion that the retention of Griesbach's *Ophiceras* would be unfortunate.

Rudolf Richter, Senckenbergische Naturforschende Gesellschaft, Frankfurt a.M.:

Suspension der Regeln soll eine sehr seltene Ausnahme bleiben, weil die häufigere Anwendung dieses Rechtes zu schlimmen Folgen für die Nomenklatur führen würde.

Im Falle von *Lytoceras* Suess und *Ophiceras* Griesbach ist aber *Suspension* das allein Richtige.

B. B. Woodward, London:

I am of opinion that *Lytoceras* should be placed with "nomina conservanda", but that *Ophiceras* Griesbach, 1880, should not be accepted, Suess' earlier name having passed into literature.

There is unanimity of opinion regarding *Lytoceras* among the experts consulted, and an overwhelming affirmative majority in regard to *Ophiceras*. In view of the foregoing data the Secretary recommends the adoption of the Summary given above as the Opinion of the Commission.

Opinion prepared by Bather and Stiles.

Vote on *Lytoceras*:

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Cabrera, Chapman, Horvath, Ishikawa, K. Jordan, Pellegrin, Richter, Silvestri, Stiles, Stone, Stephenson.

Opinion dissented from by no Commissioner.

Not voting, six (6) Commissioners: Bolivar, Fantham, Handlirsch, Peters, Stejneger, Warren.

Vote on *Ophiceras*:

Opinion concurred in by ten (10) Commissioners: Apstein, Bather, Chapman, Horvath, Ishikawa, K. Jordan, Pellegrin, Richter, Stiles, Stephenson.

Opinion dissented from by three (3) Commissioners: Cabrera, Silvestri, Stone.

Not voting, six (6) Commissioners: Bolivar, Fantham, Handlirsch, Peters, Stejneger, Warren.

Accordingly, *Lytoceras* is placed in the Official List of Generic Names and the case of *Ophiceras* is tabled until the next meeting of the Commission.

OPINION 131

THE TYPE SPECIES OF *Tromikosoma* MORTENSEN, 1903

SUMMARY.—The type species of *Tromikosoma* is *T. kochleri*.

PRESENTATION OF CASE.—Dr. Mortensen, of Copenhagen, has presented the following case for Opinion:

Pomel, in his paper "Classification méthodique et Genera des Echinides vivants et fossiles", 1883, p. 108, established a genus *Echinosoma*, citing the species *Phormosoma uranus* A. Agassiz and *Phormosoma tenuis* A. Agassiz as belonging to that genus without designating any of them as the genotype.

In my work "Echinoidea I. The Danish Ingolf Expedition", vol. 4, no. 1, p. 62, 1903, I adopted the said genus of Pomel, referring to it the same two species as did Pomel, but no genotype was designated. In this same work I established the genus *Tromikosoma*, with the single species *Tromikosoma kochleri* n. sp., which is accordingly the genotype of that genus.

A. Agassiz and H. L. Clark, in their work "Hawaiian and other Pacific Echini. The Echinothuridae" (Mem. Mus. Comp. Zool., vol. 34, no. 3, p. 160, 1909) designate *Phormosoma tenue* A. Agassiz as the genotype of *Echinosoma*, which is made to include also my genus *Tromikosoma*—which I agree to be correct.

The name *Echinosoma*, however, was preoccupied, no less than three times: by Audinet-Serville, 1839, for an earwig; by Wollaston, 1854, for a beetle; and by Semper, 1868, for a Holothurian. Accordingly, it cannot be used for the echinoids, and the name *Tromikosoma* must take its place.

Which species is now to be the genotype of *Tromikosoma*, *Phormosoma tenue* A. Agassiz or *Tromikosoma kochleri* Mrtsn.?

I would think the latter ought to remain the genotype of *Tromikosoma* also in its extended sense. But the matter does not seem to me quite clear, so it would seem better to have the Commission give its Opinion about the case, and to give it a more general form. I may then put the question thus: When an older genus proves to be a synonym of a later genus, which species is then to be regarded as the genotype, that of the older or that of the later genus?

DISCUSSION.—This case was submitted to the Commission in Circular Letter No. 252 for informal expression of Opinion and informal vote. As a result the following ten Commissioners registered their view that the species *kochleri* is the correct type: Apstein, Bather, Chapman, Fantham, K. Jordan, Peters, Richter, Silvestri, Stiles and Stone. The following two Commissioners view the species *tenue* as the type: Ishikawa and Pellegrin.

The informal votes were accompanied by the following views:

Chapman remarks: "*Tromikosoma kochleri* is monotypic and founded by Mortensen in 1903. Therefore that species has priority [as genotype-C. W. S.] over *tenue* (*Phormosoma*) selected by Agassiz and Clark in 1909."

Ishikawa remarks: "I consider the specific name *tenue* is to be used for the species, even when the generic name was changed. The reason is the older name has the right of priority in the present case when the *kochleri* and *tenue* are used for one and the same species."

K. Jordan remarks: "*Tromikosoma* has absorbed an older generic concept which has no valid generic name. The genotype of *Tromikosoma* thus extended remains the same as before, *T. kochleri*. *Tromikosoma* was not proposed as a substitute for the preoccupied name *Echinosoma*."

Peters remarks: "*kochleri* is the type of *Tromikosoma* by monotypy; it was not one of the originally included species of *Echinosoma* and is of course excluded from consideration in determining the type of the latter genus."

Richter remarks, "*kochleri* ist der Typus von *Tromikosoma* Mortensen, 1903; *tenue* ist nicht der Typus von *Tromikosoma* Mort., 1903, sondern von *Echinosoma* Pomel, 1833;—gleichgültig, welches das Verhältnis der Genus-Namen *Tromikosoma* und *Echinosoma* zu einander ist. Da die Gattung *Tromikosoma* Mortensen, 1903, bei ihrer Aufstellung monotypisch war, ist *kochleri* ihr Typus. Daran ändert sich nichts durch die Frage, ob der Name *Tromikosoma* (unabänderlich mit dem Genotypus *kochleri* verbunden) an die Stelle eines anderen Gattung-Namens zu treten hat (z. B. an die Stelle von *Echinosoma* mit dem Genotypus *tenue*) oder nicht. In Übereinstimmung mit meinem Kollegen Dr. R. Mertens."

Silvestri remarks: "because the genus author designated that newer and not another."

Stiles remarks: "*kochleri* is the type species of *Tromikosoma*, and this point is not influenced by any restriction or by any broadening of the generic concept."

Stone remarks: "When two genera are united, such action in no way affects the type of either. The broader genus thus formed will take the oldest available name based on any included species, as its name; and such name retains the type previously established as its type."

On basis of the foregoing informal vote and the arguments presented, the Commission adopts as its Opinion the following: The type species of *Tromikosoma* is *T. kochleri*.

Opinion prepared by Stiles.

Opinion concurred in by twelve (12) Commissioners: Apstein, Bather, Cabrera, Chapman, Esaki, Fantham, K. Jordan, Peters, Richter, Silvestri, Stiles, Stone.

Opinion dissented from by two (2) Commissioners: Ishikawa, Pellegrin.

Not voting, six (6) Commissioners: Boliver, Handlirsch, Horvath, Stejneger, Stephenson (successor Calman).

Cabrera adds:

This case is clear. *Tromikosoma* being a monotypic genus, its single species, *kochleri*, is the type without any shadow of doubt. The question if *kochleri* is or is not the same species as *tenue*, is quite a different point, and one to be discussed, not by the Nomenclature Commission, but by echinodermatologists.

OPINION 132

STATUS OF THE "GATTUNGSBEZEICHNUNGEN" OF SOBOLEW, 1914

SUMMARY.—The "Gattungsbezeichnungen" published by Sobolew, 1914, are of the same nature as the designations published by Herrera; namely, formulae, not generic names, and have no status in Nomenclature. See Opinion 72.

PRESENTATION OF THE CASE.—Prof. O. H. Schindewolf of the Preuss. Geolog. Landesanstalt, Berlin, Germany, presents the following case for Opinion:

Die Nomenklaturkommission bitte ich ergebenst um einen *Beschluss*, der die 1914 von D. Sobolew in seiner Publikation "*Skizzen zur Phylogenie der Goniatiten*" (Mitt. d. Warschauer polytechn. Inst., Warschau, 1914) eingeführten zahlreichen neuen "Gattungsbezeichnungen" für nomenklatorisch ungültig erklärt.

Sobolew ist zwar Anhänger der binären Nomenklatur, steht aber insofern nicht auf dem Boden der Nomenklaturregeln, als er alle früher gegebenen Gattungsnamen verwirft und durch "rationelle" Namen, d. h. Formeln für Merkmalskombinationen, ersetzt. Zur Kennzeichnung seiner Methode zitiere ich aus seiner Schrift die folgenden Sätze (pp. 136-137):

"Statt der 'Gattungs'-Namen werden Benennungen eingeführt, welche das Entwicklungsstadium der Suture und die Gruppe und Reihe, zu denen die Kombination gehört, angeben. Das wird auf folgende Weise gemacht.

Auf dem Simplicissimi-Stadium stehende Goniatiten werden

Protomeroceras genannt

Auf dem Simplicis-Stadium stehende Goniatiten werden

Monomeroceras genannt

Auf dem Duplices-Stadium stehende Goniatiten werden

Dimeroceras genannt

Auf dem Multiplices-Stadium stehende Goniatiten werden

Pliomeroceras genannt.

Eine entsprechende Vorsilbe am Anfang jedes Namens wird die Gruppe anzeigen, zu der die Kombination gehört. Gomi-monomeroceras (= Tornoceras p. p. auct.); Goma-monomeroceras (= Tornoceras p. p. auct.); Oma-monomeroceras (= Cheiloceras Frech + Prionoceras Hyatt + ? Aganides P. Fischer). Auf dieselbe Weise kann am Duplices- (und Multiplices-) Stadium die isomere Reihe bezeichnet werden: α -Oma-dimeroceras (= Praeglyphioceras Wedek. + Glyphioceras p. p. Hyatt + Gastrioceras p. p. Hyatt); β -Oma-dimeroceras (= Sporadoceras Hyatt); γ -Oma-dimeroceras (= Dimeroceras Hyatt); β -Goma-dimeroceras (= Maeneceras Hyatt); α -Omi-dimeroceras (= Manticoceras p. p. auct., Crickites Wedek.); α -Gomi-dimeroceras (= Gephyroceras Hyatt. em. Holzapf.); γ -Gomi-dimeroceras (= Tornoceras p. p. auct. + Posttornoceras Wedek.)."

Es ist klar, dass alle die oben genannten neuen Namen ungültig sind und in die Synonymik der in Klammern aufgeführten alten Gattungen fallen. Ich halte es indessen für empfehlenswert, die *sämtlichen* von Sobolew eingeführten Namen als nomenklatorisch nicht existierend zu erklären, da der Autor den Boden des Prioritätsprinzips verlassen hat und seine Bezeichnungen keine Gattungsnamen im Sinne der Nomenklaturregeln sind. Ein solcher Beschluss bringt den Vorteil, dass in Zukunft die Listen der Synonyma von den wertlosen Namen Sobolews entlastet werden und dass ferner langwierige Untersuchungen fortfallen, ob für eine später als neu erkannte Gattung etwa einer von Sobolews Namen verfügbar ist.

DISCUSSION.—This case was submitted to the Commission in Circular Letter No. 249. Reports from Commissioners were submitted in Circular Letter No. 292, No. 312, and No. 320.

Jordan reports :

Die von Sobolew veröffentlichten "Namen" für Goniatiten sind durch Opinion 72 (Herrera) erledigt. Rhumbler legte ein ähnliches Verfahren der Sektion für Nomenklatur in Graz vor.

Peters reports :

It seems to me that Sobolew's "names" are not generic names in the sense of the spirit of the Rules. In my opinion they are practically formulae and as such have no standing or availability. I think they can be declared invalid on the basis of Opinion No. 72.

Richter reports :

Die von Sobolew eingeführten Bezeichnungen sind keine Gattungsnamen, sondern Definitionen einer wissenschaftlichen Auffassung. Da sie somit dem Wechsel der Auffassung unterworfen sind, kommen sie für die Nomenklatur nicht in Betracht. Vgl. auch Opinion 72. In Übereinstimmung mit Dr. Rob. Mertens.

Stiles reports :

On basis of the premises presented, I interpret these designations under Opinion 72.

On basis of the premises presented by Professor Schindewolf, the Commission adopts the following Opinion: The Gattungsbezeichnungen published by Sobolew, 1914, are of the same nature as the designations published by Herrera; namely, formulae, not generic names, and have no status in Nomenclature. See Opinion 72.

Opinion concurred in by ten (10) Commissioners: Cabrera, Esaki, Fantham, K. Jordan, Peters, Richter, Silvestri, Stejneger, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not yet voting, six (6) Commissioners: Apstein, Bolivar, Calman, Hemming, Horvath, Pellegrin.

OPINION 133

Urothoe DANA AND PHOXOCEPHALIDAE SARS

SUMMARY.—Under the Rules, the type of *Urothoe* is *U. rostratus*. The original author of a family name is free to select any contained genus as the nomenclatorial type of that family. It is not necessary to select the oldest included genus as type genus for the family. Under the present premises it is unnecessary to substitute the newer name Urothoidae 1932 for the earlier Phoxocephalidae.

PRESENTATION OF CASE.—Dr. Jean M. Pirlot of the University of Liéges requests an Opinion on certain points of nomenclature which he has raised on pages 61-62 in an article¹ published in February 1932, involving the generic name *Urothoe* Dana, 1852 and 1853, vs. *Pontharpinia* Stebbing, 1897, and the family name Phoxocephalidae vs. Urothoidae.

DISCUSSION.—I. Type of *Urothoe*. Dana (1852, p. 311²) in an extensive key summary, down to and including genera, describes *Urothoe* Dana, with generic diagnosis but without mention of any species. This appears to be the original publication of the generic name.

The following year, Dana (1853, p. 921³) discusses *Urothoe* and cites two species (*U. rostratus* [which is given unconditionally] and *U. irrostratus* [which is clearly given sub judice⁴]). This is apparently the first allocation of any species to this genus.

Under Article 30cβ⁵ of the Rules, *U. irrostratus* is excluded as type, and *U. rostratus* automatically becomes type regardless of the fact whether one dates the genus from 1852 or 1853. Compare Opin-

¹ Les Amphipodes de l'Expedition du Siboga, deuxième partie. Les Amphipodes Gammarides: I. Les Amphipodes fouisseurs, Phoxocephalidae, Oedicerotidae. Leide.

² On the classification of the Crustacea Choristopoda, Amer. Journ. Sci., ser. 2, vol. 14, no. 41, Sept.

³ U. S. Expl. Exped., vol. 13, pp. 920-923.

⁴ "The occurrence of the individuals of this species with the preceding leads us to suspect that the two may be male and female. Yet the great difference in the front is not like any sexual difference noticed; moreover, the superior antennae differ much."

⁵ *e.* The following species are excluded from consideration in determining the types of genera.

β. Species which were *species inquirendae* from the standpoint of the author at the time of its publication.

ions 35 and 46. For determination of this point it is not necessary to follow the literature further and the fact that *U.irrostratus* has been used as type by some authors is irrelevant as the case now stands.

2. Family name. A complication has arisen because of the fact that *U.irrostratus* has been used as type⁶ of *Urothoe*.

Stebbing (1906, *Das Tierreich*, vol. 21, p. 131) retains *U.irrostratus* in *Urothoe*, family Haustoriidae, and classifies (idem., p. 146) *U. rostratus* in *Pontharpinia* Stebbing, 1897, mt. *pinquis*, family Phoxocephalidae. Thus a typical "transfer case" is presented.

Pirlot raises an important question in regard to Phoxocephalidae, namely:

1. Must the oldest included generic name be taken as type for the family name? To this, the answer is in the negative.

Article 4 of the Rules reads: "The name of a family is formed by adding the ending *idae*, the name of a subfamily by adding *inae*, to the stem of the name of its type genus."

This rule does not prescribe how the type genus of a family is to be selected; and in the absence of restrictions covering this point it is to be assumed that, in accordance with custom, the original author is free to select as type genus any generic unit which he prefers. This is in harmony with the spirit of Article 30 which obviously leaves an original author of a genus entirely free to select as type species any species he wishes thus to designate. If the original author of a family (or of a genus) were compelled to select as type the oldest genus (or the oldest species) in the proposed family (or genus), this might confine his choice to a little known and very rare taxonomic unit—a restriction which would obviously be contrary to the interest both of taxonomy and of nomenclature. In this connection it is to be recalled that the "type" selected is the nomenclatorial type as distinguished from the assumed anatomical norm.

Since (with the exception of isolated instances by early authors) family names are based upon the name of the respective type genus, such family name constitutes, *ipso facto*, a definite designation of the type genus. For instance, *Musca* is definitely and unambiguously designated generic type by the use of the family Muscidae, *Homo* of Hominidae, *Ascaris* of Ascaridae, etc. It would be a nomenclatorial *reductio ad absurdum* to consider any other genus as type of any of these families. The concepts of a given family are not identical as adopted by different authors and if the rule obtained that the oldest

⁶ Stebbing, 1891, on the genus *Urothoe* [etc.], *Trans. Zool. Soc. London*, vol. 13, no. 1, p. 10: "This, which has become the type species of this genus."

genus must be the type genus of the family, the family name would be constantly subject to possible change according to the subjective ideas of authors from year to year; accordingly, even relatively stable nomenclature for family names would be hopeless, and synonymy in family names would be potentially indefinite and chaotic.

Accordingly, if *Urothoc*, type *rostratus*, is classified in Phoxocephalidae Sars it is not necessary to change this earlier family name to the later Urothoidae 1932.

In formulating this Opinion, the Commission has considered only the question of the formal application of the Rules and has not considered the question whether it would be wise to "Suspend the Rules" in this case. The data on which this latter question should be judged have not yet been placed before the Commission in sufficient detail.

In view of the foregoing premises the Secretary recommends the adoption of the following as the Opinion of the Commission:

Under the Rules, the type of *Urothoc* is *U. rostratus*. The original author of a family name is free to select any contained genus as the nomenclatorial type of that family. It is not necessary to select the oldest included genus as type genus for the family. Under the present premises it is unnecessary to substitute the newer name Urothoidae 1932 for the earlier Phoxocephalidae.

One of the points involved in this Opinion was voted upon by the Commission in the meeting at Lisbon, when the following interpretation was adopted:

Article 4 of the Code, which relates to the naming of families and subfamilies, does not require that the oldest generic name in the family or subfamily concerned must be taken as the type genus of the family or subfamily.

This point was concurred in by Commissioners Calman, Henning, Jordan, Pellegrin, Peters, and Stejneger, and by the following alternates: Amaral *vice* Cabrera, Oshima *vice* Esaki, Chester Bradley *vice* Stone, Beier *vice* Handlirsch, Arndt *vice* Richter, Mortensen *vice* Apstein.

Opinion prepared by Stiles.

Opinion concurred in by seventeen (17) Commissioners (or alternates): Apstein (in part), Beier (in part), Cabrera, Calman, Chapman, Esaki, Fantham, Henning (in part), Jordan, Oshima (in part), Pellegrin (in part), Peters, Richter, Silvestri, Stejneger, Stiles, Stone.

Opinion dissented from by no Commissioner.

Not voting, two (2) Commissioners: Bolivar and Horvath.

Apstein agrees in so far as concerns *Urothoe* but not in so far as it affects Phoxocephalidae.

Stone adds:

I concur in the Opinion that the first author to fix a type genus for a family is free to select any contained genus as the type, but in case the name then used for that genus is found to be untenable the family name changes in accordance with the change in the generic name.

For example, the American Wood Warblers were named Sylvicolidae by Gray, based on the genus *Sylvicola* (type *Parus americanus* Linn.), but *Sylvicola* was found to be preoccupied in mollusks and as a substitute *Compsothlypis* was proposed, and the family name changes to Compsothlypidae. If this were not done we might have *Sylvicola* for mollusks and Sylvicolidae for Birds!

Sylvestri states:

I agree perfectly with the opinion of Commissioner Stone as expressed in the Circular Letter No. 333 (Series 1936).

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